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Engd by E.G. Williams & Bro. N.Y.

Sincerely
Jacob H. Studer

15

THE

BIRDS OF NORTH AMERICA

ONE HUNDRED AND NINETEEN ARTISTIC COLORED PLATES
REPRESENTING THE DIFFERENT SPECIES
AND VARIETIES

DRAWN AND COLORED FROM NATURE

INCLUDING A COPIOUS TEXT GIVING A POPULAR ACCOUNT OF
THEIR HABITS AND CHARACTERISTICS, BASED ON OBSERVATIONS MADE IN THE FIELD
BY THE MOST EMINENT WRITERS ON ORNITHOLOGY

PREFACED BY A SYSTEMATIC TABLE AND INDEX TO PAGE, PLATE AND FIGURE

ARRANGED ACCORDING TO THE CLASSIFICATION ADOPTED BY

THE AMERICAN ORNITHOLOGISTS' UNION

JACOB H. STUDER
EDITOR AND PROPRIETOR

NEW-YORK, U. S. A.
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THE NATURAL SCIENCE ASSOCIATION OF AMERICA
M. DCCC. XCV.

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This Work is Dedicated

TO THE UNSEEN PRESENCE OF MY GOOD WIFE

CAROLINE BUSS STUDER

THE BUILDER OF MY HOPES

WHO PASSED FROM OUR VIEW SEPTEMBER SECOND, A. D. 1871, AGED THIRTY YEARS

AND

TO MY DAUGHTERS

MARY FRANCISCA AND ANNA REGINA

THE SWEET COMPANIONS OF MY LABORS

WHO DIED RESPECTIVELY APRIL SECOND AND EIGHTH, A. D. 1876, AGED ELEVEN AND THIRTEEN YEARS

"Lovely and comely in their life, even in death they were not divided."—II KINGS: I, 23.

"Manibus date lilia plenis."—VIRGIL.

JACOB H. STUDER

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1895

A Systematic Table of The Birds of North America

ARRANGED ACCORDING TO THE CLASSIFICATION ADOPTED BY

THE AMERICAN ORNITHOLOGISTS' UNION

AND INCLUDING ALL THE ADDITIONS AND CORRECTIONS WHICH HAVE BEEN MADE SINCE THE PUBLICATION OF THE UNION'S "CHECK-LIST" IN 1886.

PREPARED BY FRANK M. CHAPMAN, ASS'T. ORNITHOLOGIST

AT THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK CITY.

ORDER PYGOPODES. DIVING BIRDS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Podicipidæ. Grebes	Æchmophorus	occidentalis		Western Grebe	1	160	106	7
	Colymbus	holbœllii		Holbœll's Grebe	2	160	106	6
		auritus		Horned Grebe	3	159	106	2
		nigricollis	californicus	American Eared Grebe	4	160	106	5
		dominicus		St. Domingo Grebe	5	159	106	3
	Podilymbus	podiceps		Pied-billed Grebe	6	160	106	4
Urinatoridæ. Loons	Urinator	imber		Loon	7	14	14	1
		adamsii		Yellow-billed Loon	8	160	106	9
		arcticus		Black-throated Loon	9	160	106	10
		pacificus		Pacific Loon	10	176	116	9
		lumme		Red-throated Loon	11	128	83	4
Alcidæ. Auks, Murres, and Puffins.	Lunda	cirrhata		Tufted Puffin	12	116	75	5
	Fratercula	arctica		Puffin	13	115	75	4
			glacialis	Large-billed Puffin	13[a]	163	108	16
		corniculata		Horned Puffin	14	163	108	17
	Cerorhinca	monocerata		Rhinoceros Auklet	15	163	108	15
	Ptychorhamphus	aleuticus		Cassin's Auklet	16	139	93	8
	Cyclorrhynchus	psittaculus		Paroquet Auklet	17	163	108	14
	Simorhynchus	cristatellus		Crested Auklet	18	163	108	13
		pygmæus		Whiskered Auklet	19	163	108	12
		pusillus		Least Auklet	20	162	107	18
	Synthliboramphus	antiquus		Ancient Murrelet	21	163	108	11
	Brachyramphus	marmoratus		Marbled Murrelet	23	139	93	7
		kittlitzii		Kittlitz's Murrelet	24	162	108	9
		hypoleucus		Xantus's Murrelet	25			
		craveri		Craveri's Murrelet	26			
	Cepphus	grylle		Black Guillemot	27	128	83	3
		mandtii		Mandt's Guillemot	28			
		columba		Pigeon Guillemot	29	162	108	8
	Uria	troile		Murre	30	115	75	2
			californica	California Murre	30[a]			
		lomvia		Brunnich's Murre	31	162	108	6
			arra	Pallas's Murre	31[a]			
	Alca	torda		Razor-billed Auk	32	94	65	3
	Plautus	impennis		Great Auk	33	114	75	1
	Alle	alle		Dovekie	34	163	108	18

ORDER LONGIPENNES. LONG-WINGED SWIMMERS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Stercorariidæ. Skuas and Jaegers	Megalestris	skua		Skua	35			
	Stercorarius	pomarinus		Pomarine Jaeger	36	177	116	17
		parasiticus		Parasitic Jaeger	37	162	108	4
		longicaudus		Long-tailed Jaeger	38	177	116	18
Laridæ. Gulls and Terns	Gavia	alba		Ivory Gull	39	176	116	1
	Rissa	tridactyla		Kittiwake	40	94	66	1
			pollicaris	Pacific Kittiwake	40[a]	176	116	14
		brevirostris		Red-legged Kittiwake	41			
	Larus	glaucus		Glaucous Gull	42	176	116	7
		barrovianus		Point Barrow Gull	42bis			
		leucopterus		Iceland Gull	43	176	116	6
		glaucescens		Glaucous-winged Gull	44	176	116	5
		kumlieni		Kumlien's Gull	45			
		nelsoni		Nelson's Gull	46			
		marinus		Great Black-backed Gull	47	113	74	3

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ORDER LONGIPENNES. LONG-WINGED SWIMMERS.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Laridæ. Gulls and Terns	Larus	schistisagus		Slaty-backed Gull	48			
		occidentalis		Western Gull	49	113	74	2
		affinis		Siberian Gull	50			
		argentatus		Herring Gull	51			
			smithsonianus	American Herring Gull	51[a]	80	54	2
		vegæ		Pallas's Gull	52			
		californicus		California Gull	53	176	116	3
		delawarensis		Ring-billed Gull	54	176	116	4
		brachyrhynchus		Short-billed Gull	55	176	116	13
		canus		Mew Gull	56			
		heermanni		Heermann's Gull	57			
		atricilla		Laughing Gull	58	94	65	2
		franklinii		Franklin's Gull	59	176	116	12
		philadelphia		Bonaparte's Gull	60	80	54	3
		minutus		Little Gull	60[bis]			
	Rhodostethia	rosea		Ross's Gull	61	86	60	3
	Xema	sabinii		Sabine's Gull	62	113	74	1
	Gelochelidon	nilotica		Gull-billed Tern	63	86	60	2
	Sterna	tschegrava		Caspian Tern	64			
		maxima		Royal Tern	65	87	61	3
		elegans		Elegant Tern	66	182	119	16
		sandvicensis	acuflavida	Cabot's Tern	67			
		trudeaui		Trudeau's Tern	68	123	79	2
		forsteri		Forster's Tern	69	99	69	2
		hirundo		Common Tern	70	12	11	3
		paradisæa		Arctic Tern	71			
		dougalli		Roseate Tern	72	89	62	6
		aleutica		Aleutian Tern	73	162	107	9
		antillarum		Least Tern	74	81	54	5
		fuliginosa		Sooty Tern	75	123	79	3
		anæthetus		Bridled Tern	76	170	112	12
	Hydrochelidon	nigra	surinamensis	Black Tern	77	9	8	4
		leucoptera		White-winged Black Tern	78	169	112	2
	Anous	stolidus		Noddy	79	176	116	10
Rhynchopidæ. Skimmers	Rhynchops	nigra		Black Skimmer	80	170	112	10

ORDER TUBINARES. TUBE-NOSED SWIMMERS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Diomedeidæ. Albatrosses	Diomedea	nigripes		Black-footed Albatross	81	146	99	1
		exulans		Wandering Albatross	81bis			
		albatrus		Short-tailed Albatross	82	149	102	1
		melanophrys		Spectacled Albatross	82bis			
	Thalassogeron	culminatus		Yellow-nosed Albatross	83	130	86	1
	Phœbetria	fuliginosa		Sooty Albatross	84	149	102	4
Procellariidæ. Fulmars and Shearwaters	Ossifraga	gigantea		Giant Fulmar	85	115	73	3
	Fulmarus	glacialis		Fulmar	86	116	75	6
			minor	Lesser Fulmar	86[a]			
			glupischa	Pacific Fulmar	86[b]	161	107	1
			rodgersii	Rodger's Fulmar	86[c]	161	107	2
		glacialoides		Slender-billed Fulmar	87	161	107	3
	Puffinus	borealis		Cory's Shearwater	88			
		major		Greater Shearwater	89	161	107	6
		puffinus		Manx Shearwater	90	161	107	13
		creatopus		Pink-footed Shearwater	91	161	107	10
		auduboni		Audubon's Shearwater	92			
		gavia		Black-vented Shearwater	93	161	107	14
		stricklandi		Sooty Shearwater	94	161	107	12
		griseus		Dark-bodied Shearwater	95	161	107	15
		tenuirostris		Slender-billed Shearwater	96	161	107	16
		cinereus		Black-tailed Shearwater	97	161	107	11
	Æstrelata	hasitata		Blacked-capped Petrel	98	162	107	17
		gularis		Peale's Petrel	99			
		fisheri		Fisher's Petrel	100			
	Bulweria	bulweri		Bulwer's Petrel	101			
	Daption	capensis		Pintado Petrel	102	162	107	7
	Halocyptena	microsoma		Least Petrel	103	160	106	15
	Procellaria	pelagica		Stormy Petrel	104	106	75	7
	Oceanodroma	furcata		Fork-tailed Petrel	105	160	106	11
		leucorhoa		Leach's Petrel	106	160	106	18
			macrodactyla	Guadaloupe Petrel	106[a]			
		melania		Black Petrel	107			
		homochroa		Ashy Petrel	108	160	106	13

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ORDER TUBINARES. TUBE-NOSED SWIMMERS.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Procellariidæ. Fulmars and Shearwaters	Oceanites	oceanicus		Wilson's Petrel	109	162	107	8
	Cymodroma	grallaria		White-bellied Petrel	110	176	116	8
	Pelagodroma	marina		White-faced Petrel	111			

ORDER STEGANOPODES. TOTIPALMATE SWIMMERS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Phaëthontidæ. Tropic Birds	Phaëthon	flavirostris		Yellow-billed Tropic Bird	112	83	57	1
		æthereus		Red-billed Tropic Bird	113			
Sulidæ. Gannets	Sula	cyanops		Blue-faced Booby	114			
		sula		Booby	115	182	119	9
		piscator		Red-footed Booby	116			
		bassana		Gannet	117	98	69	1
Anhingidæ. Darters	Anhinga	anhinga		Anhinga	118	92	64	2
Phalacrocoracidæ. Cormorants	Phalacrocorax	carbo		Cormorant	119	111	73	6
		dilophus		Double-crested Cormorant	120	14	13	2
			floridanus	Florida Cormorant	120[a]	146	99	4
			cincinatus	White-crested Cormorant	120[b]	182	119	6
			albociliatus	Farallone Cormorant	120[c]			
		mexicanus		Mexican Cormorant	121	181	119	3
		penicillatus		Brandt's Cormorant	122	146	99	2
		pelagicus		Pelagic Cormorant	123			
			robustus	Violet-green Cormorant	123[a]	146	99	3
			resplendens	Baird's Cormorant	123[b]			
		urile		Red-faced Cormorant	124	181	119	5
Pelecanidæ. Pelicans	Pelecanus	erythrorhynchos		American White Pelican	125	75	51	
		fuscus		Brown Pelican	126	129	84	1
		californicus		California Brown Pelican	127			
Fregatidæ. Man-o'-War Birds	Fregata	aquila		Man-o'-War Bird	128	59	43	

ORDER ANSERES. LAMELLIROSTRAL SWIMMERS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Anatidæ. Ducks, Geese, and Swans.	Merganser	americanus		American Merganser	129	24	25	
		serrator		Red-breasted Merganser	130	95	66	5
	Lophodytes	cucullatus		Hooded Merganser	131	84	57	3
	Anas	boschas		Mallard	132	75	52	2
		obscura		Black Duck	133	85	58	3
		fulvigula		Florida Duck	134	182	119	15
		strepera		Gadwall	135	181	118	15
		penelope		Widgeon	136	182	119	11
		americana		Baldpate	137	88	62	1
		crecca		European Teal	138	181	119	2
		carolinensis		Green-winged Teal	139	88	62	2
		discors		Blue-winged Teal	140	8	6	
		cyanoptera		Cinnamon Teal	141	92	64	1
	Spatula	clypeata		Shoveller	142	75	52	1
	Dafila	acuta		Pintail	143	8	6	
	Aix	sponsa		Wood Duck	144	9	8	1–2
	Netta	rufina		Rufous-crested Duck	145			
	Aythya	americana		Redhead	146	46	34	1–3
		vallisneria		Canvas-back	147	89	63	1
		marila	nearctica	American Scaup Duck	148	99	69	3
		affinis		Lesser Scaup Duck	149	95	66	7
		collaris		Ring-necked Duck	150	91	63	7
	Glaucionetta	clangula	americana	American Golden-eye	151	48	35	1–3
		islandica		Barrow's Golden-eye	152	137	91	5
	Charitonetta	albeola		Buffle-head	153	86	60	4
	Clangula	hyemalis		Old-squaw	154	21	21	
	Histrionicus	histrionicus		Harlequin Duck	155	94	65	5
	Camptolaimus	labradorius		Labrador Duck	156	182	119	3
	Eniconetta	stelleri		Steller's Duck	157	181	118	18
	Arctonetta	fischeri		Spectacled Eider	158	162	108	3
	Somateria	borealis		Eider	159	93	65	1
		dresseri		American Eider	160			
		v-nigra		Pacific Eider	161	182	119	14
		spectabilis		King Eider	162	162	108	5
	Oidemia	americana		American Scoter	163	128	83	5

ORDER ANSERES. LAMELLIROSTRAL SWIMMERS.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Anatidæ. Ducks, Geese, and Swans.	Oidemia	fusca		Velvet Scoter	164			
		deglandi		White-winged Scoter	165	94	65	4
		perspicillata		Surf Scoter	166			
	Erismatura	rubida		Ruddy Duck	167	128	83	2
	Nomonyx	dominicus		Masked Duck	168	182	119	12
	Chen	cuerulescens		Blue Goose	168*bis*	162	108	2
		hyperborea		Lesser Snow Goose	1 9	177	116	16
			nivalis	Greater Snow Goose	169[a]	113	74	4
		rossii		Ross's Snow Goose	170			
	Anser	albifrons		White-fronted Goose	171			
			gambeli	Am'n White-fronted Goose	171[a]	87	61	1
	Branta	canadensis		Canada Goose	172	180	118	11
			hutchinsii	Hutchin's Goose	172[a]	180	118	14
			occidentalis	White-cheeked Goose	172[b]			
			minima	Cackling Goose	172[c]			
		bernicla		Brant	173	127	83	1
		nigricans		Black Brant	174	182	119	8
		leucopsis		Barnacle Goose	175	181	118	13
	Philacte	canagica		Emperor Goose	176	162	108	1
	Dendrocygna	autumnalis		Black-bellied Tree-Duck	177	181	118	17
		fulva		Fulvous Tree-Duck	178	181	118	16
	Olor	cygnus		Whooping Swan	179			
		columbianus		Whistling Swan	180	86	60	1
		buccinator		Trumpeter Swan	181	80	54	1

ORDER ODONTOGLOSSÆ. LAMELLIROSTRAL GRALLATORES.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Phœnicopteridæ. Flamingoes	Phœnicopterus	ruber		American Flamingo	182	97	68	

ORDER HERODIONES. HERONS, STORKS, IBISES, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Plataleidæ. Spoonbills	Ajaja	ajaja		Roseate Spoonbill	183	126	82	1
Ibididæ. Ibises	Guara	alba		White Ibis	184	124	80	2
		rubra		Scarlet Ibis	185	124	80	3
	Plegadis	autumnalis		Glossy Ibis	186	136	91	1
		guarauna		White-faced Glossy Ibis	187	169	112	9
Ciconiidæ. Storks and Wood Ibises.	Tantalus	loculator		Wood Ibis	188	59	44	
	Mycteria	americana		Jabiru	189			
Ardeidæ. Herons, Bitterns, etc.	Botaurus	lentiginosus		American Bittern	190			
	Ardetta	exilis		Least Bittern	191			
		neoxena		Cory's Least Bittern				
	Ardea	occidentalis		Great White Heron	192	130	85	2
		wardi		Ward's Heron	193			
		herodias		Great Blue Heron	194	124	80	1
		cinerea		European Blue Heron	195			
		egretta		American Egret	196	122	79	1
		candidissima		Snowy Heron	197	84	57	2
		rufescens		Reddish Egret	198	170	112	15
		tricolor	ruficollis	Louisiana Heron	199	127	82	3
		cœrulea		Little Blue Heron	201	169	112	5
		virescens		Green Heron	201	8	7	1
			frazari	Frazar's Green Heron	201[a]			
	Nycticorax	nycticorax	nævius	Bl'k-crowned Night Heron	202	126	82	2
		violaceus		Yel.-crowned Night Heron	203	127	82	4

ORDER PALUDICOLÆ. CRANES, RAILS, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Gruidæ. Cranes	Grus	americana		Whooping Crane	204	3	3	
		canadensis		Little Brown Crane	205			
		mexicana		Sandhill Crane	206	129	85	1
Aramidæ. Courlans	Aramus	giganteus		Limpkin	207	129	84	2
Rallidæ. Rails, Gallinules and Coots	Rallus	elegans		King Rail	208	179	118	9

ORDER PALUDICOLÆ. CRANES, RAILS, ETC.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Rallidæ. Rails, Gallinules and Coots	Rallus	beldingi		Belding's Rail	209			
		obsoletus		California Clapper Rail	210			
		longirostris	crepitans	Clapper Rail	211	19	19	1
			saturatus	Louisiana Clapper Rail	211[a]			
			scottii	Scott's Clapper Rail	211[b]			
			caribæus	West Indian Clapper Rail	211[c]			
		virginianus		Virginia Rail	212	4	4	3
	Porzana	porzana		Spotted Crake	213			
		carolina		Sora	214	3	4	1–2
		noveboracensis		Yellow Rail	215	137	91	4
		jamaicensis		Black Rail	216	137	91	3
			coturniculus	Farallone Rail	216[a]	169	112	4
	Crex	crex		Corn Crake	217	179	118	8
	Ionornis	martinica		Purple Gallinule	218	170	112	17
	Gallinula	galeata		Florida Gallinule	219	58	42	
	Fulica	atra		European Coot	220			
		americana		American Coot	221	17	17	

ORDER LIMICOLÆ. SHORE BIRDS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Phalaropodidæ. Phalaropes	Crymophilus	fulicarius		Red Phalarope	222	87	61	4
	Phalaropus	lobatus		Northern Phalarope	223	112	73	8
		tricolor		Wilson's Phalarope	224	81	54	4
Recurvirostridæ. Avocets and Stilts	Recurvirostra	americana		American Avocet	225	87	61	5
	Himantopus	mexicanus		Black-necked Stilt	226	137	91	6
Scolopacidæ. Snipes, Sandpipers, etc.	Scolopax	rusticola		European Woodcock	227	170	112	16
	Philohela	minor		American Woodcock	228	10	9	1–2
	Gallinago	gallinago		European Snipe	229			
		delicata		Wilson's Snipe	230	88	62	3
	Macrorhamphus	griseus		Dowitcher	231	112	73	7
		scolopaceus		Long-billed Dowitcher	232			
	Micropalama	himantopus		Stilt Sandpiper	233	129	84	3
	Tringa	canutus		Knot	234	57	41	1
		maritima		Purple Sandpiper	235	91	63	9
		couesi		Aleutian Sandpiper	236			
		ptilocnemis		Prybilof Sandpiper	237			
		acuminata		Sharp-tailed Sandpiper	238			
		maculata		Pectoral Sandpiper	239	76	52	3
		fuscicollis		White-rumped Sandpiper	240	63	46	3
		bairdii		Baird's Sandpiper	241	181	119	1
		minutilla		Least Sandpiper	242	89	62	8
		damacensis		Long-toed Stint	242bis			
		alpina		Dunlin	243			
			pacifica	Red-backed Sandpiper	243[a]	57	41	2
		ferruginea		Curlew Sandpiper	244	177	116	19
	Eurynorhynchus	pygmæus		Spoon-bill Sandpiper	245			
	Ereunetes	pusillus		Semipalmated	246	12	11	2
		occidentalis		Western Sandpiper	247	170	112	19
	Calidris	arenaria		Sanderling	248	55	40	2
	Limosa	fedoa		Marbled Godwit	249	91	63	6
		lapponica	baueri	Pacific Godwit	250	170	112	14
		hæmastica		Hudsonian Godwit	251	85	58	4
		limosa		Black-tailed Godwit	252			
	Totanus	nebularius		Green Shank	253	170	112	18
		melanoleucus		Greater Yellow-legs	254	15	14	2
		flavipes		Yellow-legs	255	12	11	1
		solitarius		Solitary Sandpiper	256	161	106	7
		ochropus		Green Sandpiper	257			
	Symphemia	semipalmata		Willet	258	62	46	2
			speculiferus	Western Willet	258[a]			
	Heteractitis	incanus		Wandering Tatler	259	149	102	6
	Pavoncella	pugnax		Ruff	260	161	106	16
	Bartramia	longicauda		Bartramian Sandpiper	261	179	118	10
	Tryngites	subruficollis		Buff-breasted Sandpiper	262	89	62	7
	Actitis	macularia		Spotted Sandpiper	263	84	57	4
	Numenius	longirostris		Long-billed Curlew	264	62	46	1
		hudsonicus		Hudsonian Curlew	265	61	45	3
		borealis		Eskimo Curlew	266	61	45	2
		phæopus		Whimbrel	267			
		tahitiensis		Bristle-thighed Curlew	268	169	112	7
Charadriidæ. Plovers	Vanellus	vanellus		Lapwing	269			
	Charadrius	squatarola		Black-bellied Plover	270	58	41	4
		apricarius		Golden Plover	271			

ORDER LIMICOLÆ. SHORE BIRDS.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Charadriidæ. Plovers	Charadrius	dominicus		American Golden Plover	272	57	41	3
			fulvus	Pacific Golden Plover	272[a]			
	Ægialitis	vocifera		Killdeer	273	56	40	3
		semipalmata		Semipalmated Plover	274	56	40	5
		hiaticula		Ring Plover	275			
		dubia		Little Ring Plover	276			
		meloda		Piping Plover	277	56	40	4
			circumcincta	Belted Piping Plover	277[a]			
		nivosa		Snowy Plover	278	149	102	3
		mongola		Mongolian Plover	279			
		wilsonia		Wilson's Plover	280	92	63	10
		montana		Mountain Plover	281	149	102	2
Aphrizidæ. Surf Birds and Turnstones	Aphriza	virgata		Surf Bird	282	177	116	20
	Arenaria	interpres		Turnstone	283	60	45	1
		melanocephala		Black Turnstone	284	89	62	9
Hæmatopodidæ. Oyster-catchers	Hæmatopus	ostralegus		Oyster-catcher	285			
		palliatus		American Oyster-catcher	286	58	42	
			frazari	Frazar's Oyster-catcher	286[a]			
		bachmani		Black Oyster-catcher	287	139	93	9
Jacanidæ. Jacanas	Jacana	spinosa		Mexican Jaçana	288			

ORDER GALLINÆ. GALLINACEOUS BIRDS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Tetronidæ. Grouse, Partridges, etc.	Colinus	virginianus		Bob-white	289	28	27	
			floridanus	Florida Bob-white	289[a]	164	109	7
			texanus	Texan Bob-white	289[b]	175	115	4
			cubanensis	Cuban Bob-white	289[c]			
		ridgwayi		Masked Bob-white	291			
	Oreortyx	pictus		Mountain Partridge	292	134	89	8–9
			plumiferus	Plumed Partridge	292[a]			
	Callipepla	squamata		Scaled Partridge	293	164	109	9
			castanogastris	Chestnut-bellied Scaled Partridge	293[a]			
		californica		California Partridge	294	131	87	5–6
			vallicola	Valley Partridge	294[a]			
		gambeli		Gambel's Partridge	295	164	109	8
	Cyrtonyx	montezumæ		Massena Partridge	296	179	118	4
	Dendragapus	obscurus		Dusky Grouse	297	175	115	3
			fuliginosus	Sooty Grouse	297[a]	179	118	5
			richardsonii	Richardson's Grouse	297[b]	179	118	6
		canadensis		Canada Grouse	298	142	96	1
		franklinii		Franklin's Grouse	299	174	114	29
	Bonasa	umbellus		Ruffed Grouse	300	120	78	1
			togata	Canada Ruffed Grouse	300[a]			
			umbelloides	Gray Ruffed Grouse	300[b]	174	114	26
			sabini	Oregon Ruffed Grouse	300[c]	143	96	4
	Lagopus	lagopus		Willow Ptarmigan	301	143	96	2
			alleni	Allen's Ptarmigan	301[a]			
		rupestris		Rock Ptarmigan	302	164	109	6
			reinhardti	Rheinhardt's Ptarmigan	302[a]			
			nelsoni	Nelson's Ptarmigan	302[b]			
			atkhensis	Turner's Ptarmigan	302[c]			
		welchi		Welch's Ptarmigan	303			
		leucurus		White-tailed Ptarmigan	304	164	109	5
	Tympanuchus	americanus		Prairie Hen	305	81	55	
		cupido		Heath Hen	306			
		pallidicinctus		Lesser Prairie Hen	307	179	118	3
	Pediocætes	phasianellus		Sharp-tailed Grouse	308	143	96	3
			columbianus	Columbian Sharp-tailed Grouse	308[a]	174	114	28
			campestris	Prairie Sharp-tailed Grouse	308[b]			
	Centrocercus	urophasianus		Sage Grouse	309	179	118	7
Phasianidæ. Pheasants, etc	Meleagris	gallopavo		Wild Turkey	310	174	115	2
			mexicana	Mexican Turkey	310[a]	174	115	1
Cracidæ. Curassows and Guans	Ortalis	vetula	maccalli	Chachalaca	311	174	114	27

ORDER COLUMBÆ. PIGEONS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Columbidæ. Pigeons	Columba	fasciata		Band-tailed Pigeon	312	163	109	3
			vioscæ	Viosca's Band-tailed Pig'n	312			
		flavirostris		Red-billed Pigeon	313	163	109	1
		leucocephala		White-crowned Pigeon	314	122	78	2
	Ectopistes	migratorius		Passenger Pigeon	315	32	29	
	Zenaidura	macroura		Mourning Dove	316	74	50	6
	Zenaida	zenaida		Zenaida Dove	317	173	114	25
	Engyptila	albifrons		White-fronted Dove	318			
	Melopelia	leucoptera		White-winged Dove	319	163	109	2
	Columbigallina	passerina		Ground Dove	320	174	113	33
	Scardafella	inca		Inca Dove	321	174	114	31
	Geotrygon	martinica		Key West Quail-dove	322	174	114	30
	Starnœnas	cyanocephala		Blue-headed Quail-dove	323	174	114	32

ORDER RAPTORES. BIRDS OF PREY.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Cathartidæ. American Vultures	Pseudogryphus	californianus		California Vulture	324	168	111	1
	Cathartes	aura		Turkey Vulture	325	168	111	3
	Catharista	atrata		Black Vulture	326	168	111	2
Falconidæ. Vultures, Falcons, Hawks, Eagles, etc	Elanoides	forficatus		Swallow-tailed Kite	327	144	98	1
	Elanus	leucurus		White-tailed Kite	328	166	110	6
	Ictinia	mississippiensis		Mississippi Kite	329	166	110	4
	Rostrhamus	sociabilis		Everglade Kite	330	166	110	5
	Circus	hudsonius		Marsh Hawk	331	145	98	2
	Accipiter	velox		Sharp-shinned Hawk	332	85	58	1
		cooperi		Cooper's Hawk	333	167	110	13
		atricapillus		American Goshawk	334	20	20	
			striatulus	Western Goshawk	334[a]			
	Parabuteo	unicinctus	harrisi	Harris's Hawk	335	167	110	12
	Buteo	buteo		European Buzzard	336			
		borealis		Red-tailed Hawk	337	37	30	
			kriderii	Krider's Hawk	337[a]			
			calurus	Western Red-tail	337[b]			
			lucasanus	St. Lucus Red-tail	337[c]			
		harlani		Harlan's Hawk	338	167	110	10
		lineatus		Red-shouldered Hawk	339	125	81	3
			alleni	Florida Red-shouldered Hawk	339[a]			
			elegans	Red-bellied Hawk	339[b]			
		abbreviatus		Zone-tailed Hawk	340	168	110	15
		albicaudatus		White-tailed Hawk	341			
		swainsoni		Swainson's Hawk	342	145	98	4
		latissimus		Broad-winged Hawk	343	85	58	2
		brachyurus		Short-tailed Hawk	344			
	Urubitinga	anthracina		Mexican Black Hawk	345			
	Asturina	plagiata		Mexican Goshawk	346	168	110	17
	Archibuteo	lagopus		Rough-legged Hawk	347			
			sancti-johannis	American Rough-legged Hawk	347[a]	126	81	4
		ferrugineus		Ferruginous Rough-leg	348	168	110	16
	Aquila	chrysaëtos		Golden Eagle	349	85	59	1
	Thrasaëtus	harpyia		Harpy Eagle	350			
	Haliæetus	albicilla		Gray Sea Eagle	351	15	15	
		leucocephalus		Bald Eagle	352	1	1	
	Falco	islandus		White Gyrfalcon	353	120	77	1
		rusticolus		Gray Gyrfalcon	354			
			gyrfalco	Gyrfalcon	354[a]			
			obsoletus	Black Gyrfalcon	354[b]			
		mexicanus		Prairie Falcon	355	141	95	1
		peregrinus	anatum	Duck Hawk	356	7	6	
			pealei	Peale's Falcon	356[a]			
		columbarius		Pigeon Hawk	357	40	32	3–4
			suckleyi	Black Merlin	357[a]	177	117	3
		richardsoni		Richardson's Merlin	358	166	110	2
		regulus		Merlin	358bis			
		fusco-cœrulescens		Aplomado Falcon	359	166	110	1
		tinnunculus		European Kestrel	359bis			
		sparverius		American Sparrow Hawk	360	54	39	1–2
		sparveroides		Cuban Sparrow Hawk	361			
	Polyborus	cheriway		Audubon's Caracara	362	177	117	9
		lutosus		Guadalupe Caracara	363			
	Pandion	haliaëtus	carolinensis	American Osprey	364	16	16	

ORDER RAPTORES. BIRDS OF PREY.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Strigidæ. Barn Owls	Strix	pratincola		American Barn Owl	365	142	95	2
Bubonidæ. Horned Owls, etc	Asio	wilsonianus		American Long-eared Owl	366	171	113	3
		accipitrinus		Short eared Owl	367	124	81	2
	Syrnium	nebulosum		Barred Owl	368	21	22	
			alleni	Florida Barred Owl	368[a]			
		occidentale		Spotted Owl	369	171	113	7
	Scotiapex	cinerea		Great Gray Owl	370	171	113	4
			lapponica	Lapp Owl	370[a]			
	Nyctala	tengmalmi	richardsoni	Richardson's Owl	371	171	113	2
		acadica		Acadian Owl	372	166	110	7
	Megascops	asio		Screech Owl	373	124	81	1
			floridanus	Florida Screech Owl	373[a]	177	117	5
			mccallii	Texan Screech Owl	373[b]	167	110	8
			bendirei	California Screech Owl	373[c]			
			kennicottii	Kennicott's Screech Owl	373[d]	167	110	9
			maxwelliæ	Rocky Mountain Screech Owl	373[e]			
			trichopsis	Mexican Screech Owl	373[f]			
		flammeolus		Flammulated Screech Owl	374	171	113	6
	Bubo	virginianus		Great Horned Owl	375	5	5	1
			subarcticus	Western Horned Owl	375[a]			
			arcticus	Arctic Horned Owl	375[b]	171	113	5
			saturatus	Dusky Horned Owl	375[c]			
	Nyctea	nyctea		Snowy Owl	376	11	10	1
	Surnia	ulula		Hawk Owl	377			
			caparoch	American Hawk Owl	377[a]	171	113	1
	Speotyto	cunicularia	hypogæa	Burrowing Owl	378	142	95	5
			floridana	Florida Burrowing Owl	378[a]			
	Glaucidium	gnoma		Pygmy Owl	379	142	95	3
			hoskinsii	Hoskin's Pygmy Owl	379[a]			
		phalænoides		Ferruginous Pygmy Owl	380	142	95	4
	Micrathene	whitneyi		Elf Owl	381	108	92	9

ORDER PSITTACI. PARROTS, MACAWS, PAROQUETS, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Psittacidæ. Parrots	Conurus	carolinensis		Carolina Paroquet	382	164	109	10
	Rhynchopsitta	pachyrhyncha		Thick-billed Parrot	382bis			

ORDER COCCYGES. CUCKOOS, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Cuculidæ. Cuckoos, Anis, etc	Crotophaga	ani		Ani	383	178	117	15
		sulcirostris		Groove-billed Ani	384			
	Geococcyx	californianus		Road-runner	385	178	118	2
	Coccygus	minor		Mangrove Cuckoo	386	175	115	7
		maynardi		Maynard's Cuckoo	386bis			
		americanus		Yellow-billed Cuckoo	387	30	28	1
			occidentalis	Western Yellow-billed Cuckoo	387[a]			
		erythrophthalmus		Black-billed Cuckoo	388	175	115	8
Trogonidæ. Trogons	Trogon	ambiguus		Coppery-tailed Trogan	389	143	117	1
Alcedinidæ. Kingfishers	Ceryle	alcyon		Belted Kingfisher	390	20	19	2
		cabanisi		Texan Kingfisher	391	178	117	14

ORDER PICI. WOODPECKERS, WRYNECKS, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Picidæ. Woodpeckers	Campephilus	principalis		Ivory-billed Woodpecker	392	25	26	1
	Dryobates	villosus		Hairy Woodpecker	393	18	18	2
			leucomelas	Northern Hairy Woodpecker	393[a]			
			audubonii	Southern Hairy Woodpecker	393[b]			
			harrisii	Harris's Woodpecker	393[c]	93	93	2

ORDER PICI. WOODPECKERS, WRYNECKS, ETC.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Picidæ. Woodpeckers	Dryobates	pubescens		Downy Woodpecker	394	27	26	2
			gairdnerii	Gairdner's Woodpecker	394[a]	131	87	4
		borealis		Red-cockaded Woodpecker	395	95	66	5
		scalaris	bairdi	Texan Woodpecker	396	148	101	6
			lucasanus	St. Lucas Woodpecker	396[a]	158	105	22
		nuttallii		Nuttall's Woodpecker	397	158	105	28
		arizonæ		Arizona Woodpecker	398			
	Xenopicus	albolarvatus		White-headed Woodpecker	399	134	89	3
	Picoides	arcticus		Arctic Three-toed Woodpecker	400	79	53	2
		americanus		American Three-toed Woodpecker	401	176	115	12
			alascensis	Alaskan Three-toed Woodpecker	401[a]			
	Sphyrapicus	varius		Yellow-bellied Sapsucker	402	10	9	3–4
			nuchalis	Red-naped Sapsucker	402[a]	158	105	31
		ruber		Red-breasted Sapsucker	403	134	89	2
		thryoideus		Williamson's Sapsucker	404	158	105	30
	Ceophlœus	pileatus		Pileated Woodpecker	405	17	18	1
	Melanerpes	erythrocephalus		Red-headed Woodpecker	406	2	2	3–4
		formicivorus	bairdi	California Woodpecker	407	135	90	6
			angustifrons	Narrow-fronted Woodpecker	407[a]			
		torquatus		Lewis's Woodpecker	408	110	73	2
		carolinus		Red-bellied Woodpecker	409	41	32	2–3
		aurifrons		Golden-fronted Woodpecker	410	158	105	27
		uropygialis		Gila Woodpecker	411	158	105	29
	Colaptes	auratus		Flicker	412	2	2	1
		cafer		Red-shafted Flicker	413	111	73	3
			saturatior	Northwestern Flicker	413[a]			
		chrysoides		Gilded Flicker	414	164	109	11
		rufipileus		Guadalupe Flicker	415			

ORDER MACROCHIRES. GOATSUCKERS, SWIFTS, HUMMINGBIRDS, ETC.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Caprimulgidæ, Goatsuckers, etc.	Antrostomus	carolinensis		Chuck-will's-widow	416	106	72	2
		vociferus		Whip-poor-will	417	107	72	3
			arizonæ	Stephens' Whip-poor-will	417[a]			
	Phalænoptilus	nuttalli		Poor-will	418	178	117	11
			nitidus	Frosted Poor-will	418[a]			
	Nyctidromus	albicollis	merrilli	Merrill's Parauque	419			
	Chordeiles	virginianus		Night-hawk	420	107	72	4
			henryi	Western Nighthawk	420[a]	157	105	16
			minor	Cuban Nighthawk	420[b]			
			sennetti	Sennett's Nighthawk	420[c]			
			chapmani	Chapman's Nighthawk	420[d]			
		texensis		Texan Nighthawk	421	157	105	15
Micropodidæ. Swifts	Cypseloides	niger		Black Swift	422	157	105	9
	Chætura	pelagica		Chimney Swift	423	118	76	7
		vauxii		Vaux's Swift	424	157	105	18
	Micropus	melanoleucus		White-throated Swift	425	144	97	7
Trochilidæ. Hummingbirds	Eugenes	fulgens		Rivoli Hummingbird	426	156	105	8
	Cœligena	clemenciæ		Blue-throated Hummingbird	427			
	Trochilus	colubris		Ruby-throated Hummingbird	428	108	72	6
		alexandri		Black-chinned Hummingbird	429	132	88	4
		violajuglum		Violet-throated Hummingbird	429bis			
		costæ		Costa's Hummingbird	430	143	97	3
		anna		Anna's Hummingbird	431	111	73	4
		platycercus		Broad-tailed Hummingbird	432	147	100	6
		floresii		Floresi's Hummingbird	432bis			
		rufus		Rufous Hummingbird	433	133	88	7
		alleni		Allen's Hummingbird	434	178	117	
		heloisa		Heloise's Hummingbird	435	156	105	1–2
		calliope		Calliope Hummingbird	436	148	101	8

ORDER MACROCHIRES. GOATSUCKERS, SWIFTS, HUMMINGBIRDS, ETC.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Trochilidæ. Hummingbirds	Trochilus	lucifer		Lucifer Hummingbird	437			
	Amazilia	fuscicaudata		Rieffer's Hummingbird	438			
		cerviniventris		Buff-bellied Hummingbird	439			
	Basilinna	xantusi		Xanthus's Hummingbird	440	156	105	7
	Iache	latirostris		Broad-billed Hummingbird	441			

ORDER PASSERES. PERCHING BIRDS.

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Tyrannidæ. Tyrant Flycatchers	Milvulus	tyrannus		Fork-tailed Flycatcher	442	117	76	1
		forficatus		Scissor-tailed Flycatcher	443	117	76	2
	Tyrannus	tyrannus		Kingbird	444	38	31	1–2
		dominicensis		Gray Kingbird	445	117	74	4
		melancholicus	couchii	Couch's Kingbird	446	158	105	21
		verticalis		Arkansas Kingbird	447	118	76	6
		vociferans		Cassin's Kingbird	448	158	105	22
	Pitangus	derbianus		Derby Flycatcher	449			
	Myiozetetes	texensis		Giraud's Flycatcher	450			
	Myiodynastes	luteiventris		Sulphur-bellied Flycatcher	451			
	Myiarchus	crinitus		Crested Flycatcher	452	41	32	1
		mexicanus		Mexican Crested Flycatcher	453			
			magister	Arizona Crested Flycatcher	453[a]			
		cinerascens		Ash-throated Flycatcher	454	158	105	20
		lawrenceii		Lawrence's Flycatcher	455	158	105	23
			olivascens	Olivaceous Flycatcher	455[a]			
	Sayornis	phœbe		Phœbe	456	74	50	5
		saya		Say's Phœbe	457	141	94	7
		nigricans		Black Phœbe	458	118	76	5
	Contopus	borealis		Olive-sided Flycatcher	459	117	76	3
		pertinax		Coues's Flycatcher	460	154	104	18
		virens		Wood Pewee	461	73	50	3
		richardsonii		Western Wood Pewee	462	154	104	17
	Empidonax	flaviventris		Yellow-bellied Flycatcher	463	154	104	19
		difficilis		Baird's Flycatcher	464			
		cineritius		St. Lucas Flycatcher	464[bis]			
		acadicus		Acadian Flycatcher	465	154	104	20
		pusillus		Little Flycatcher	466	154	104	21
			traillii	Traill's Flycatcher	466[a]	74	50	4
		minimus		Least Flycatcher	467	72	49	10
		hammondi		Hammond's Flycatcher	468	147	100	8
		obscurus		Wright's Flycatcher	469	147	100	9
		fulvifrons		Fulvous Flycatcher	470			
			pygmæus	Buff-breasted Flycatcher	470[a]	148	101	3
	Pyrocephalus	rubineus	mexicanus	Vermilion Flycatcher	471	133	88	9
	Ornithion	imberbe		Beardless Flycatcher	472			
			ridgwayi	Ridgway's Flycatcher	472[a]			
Alaudidæ. Larks	Alauda	arvensis		Skylark	473			
	Otocoris	alpestris		Horned Lark	474	82	56	4
			leucolæma	Pallid Horned Lark	474[a]			
			praticola	Prairie Horned Lark	474[b]			
			arenicola	Desert Horned Lark	474[c]			
			giraudi	Texan Horned Lark	474[d]			
			chrysolæma	Mexican Horned Lark	474[e]	178	117	16
			rubea	Ruddy Horned Lark	474[f]			
			strigata	Streaked Horned Lark	474[g]			
Corvidæ. Crows, Jays, Magpies, etc.	Pica	pica	hudsonica	American Magpie	475	79	53	6
		nuttalli		Yellow-bellied Magpie	476	111	73	5
	Cyanocitta	cristata		Blue Jay	477	55	39	3–4
			florincola	Florida Blue Jay	477[a]			
		stelleri		Steller's Jay	478	101	71	1
			frontalis	Blue-fronted Jay	478[a]	156	105	2
			macrolopha	Long-crested Jay	478[b]	156	105	3
			annecteus	Black-headed Jay	478[c]			
	Aphelocoma	floridana		Florida Jay	479	95	66	2
		woodhousei		Woodhouse's Jay	480	137	92	1
		californica		California Jay	481	139	93	1
			hypoleuca		481[a]			
		sieberii	arizonæ	Arizona Jay	482			
		insularis		Santa Cruz Jay	482bis			
	Xanthoura	luxuosa		Green Jay	483	156	105	1

ORDER PASSERES. PERCHING BIRDS.—*Continued.*

FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Corvidæ. Crows, Jays, Magpies, etc.	Perisoreus	canadensis		Canada Jay	484	97	67	3
			capitalis	Rocky Mountain Jay	484[a]	177	117	6
			fumifrons	Alaskan Jay	484[b]			
			nigricapillus	Labrador Jay	484[c]			
		obscurus		Oregon Jay	485	178	118	1
	Corvus	corax	sinuatus	Mexican Raven	486	96	67	1
			principalis	Northern Raven	486[a]			
		cryptoleucus		White-necked Raven	487	177	117	8
		americanus		American Crow	488	96	67	2
			floridanus	Florida Crow	488[a]	165	109	17
			hesperis	California Crow	488[b]			
		caurinus		Northwest Crow	489	165	109	15
		ossifragus		Fish Crow	490	165	109	16
	Picicorvus	columbianus		Clarke's Nutcracker	491	165	109	14
	Cyanocephalus	cyanocephalus		Piñon Jay	492	136	90	10
Sturnidæ. Starlings	Sturnus	vulgaris		Starling	493			
Icteridæ. Blackbirds, Orioles, etc.	Dolichonyx	oryzivorus		Bobolink	494	47	34	4–5
			albinucha	Western Bobolink	494[a]			
	Molothrus	ater		Cowbird	495	78	52	7
			obscurus	Dwarf Cowbird	495[a]	172	114	4
	Callothrus	robustus		Bronzed Cowbird	496			
	Xanthocephalus	xanthocephalus		Yellow-headed Blackbird	497	101	71	2
	Agelaius	phœniceus		Red-winged Blackbird	498	44	33	2–3
			briyanti	Bahaman Red-wing	498[a]			
			sonoriensis	Sonoran Red-wing	498[b]			
		gubernator		Bicolored Blackbird	499	155	104	29
		tricolor		Tricolored Blackbird	500	110	73	1
	Sturnella	magna		Meadowlark	501	23	24	
			mexicana	Mexican Meadowlark	501[a]			
			neglecta	Western Meadowlark	501[b]	155	104	30
	Icterus	icterus		Troupial	502			
		audubonii		Audubon's Oriole	503	164	109	12
		parisorum		Scott's Oriole	504	172	114	7
		cucullatus		Hooded Oriole	505	148	101	6
			nelsoni	Arizona Hooded Oriole	505[a]			
		spurius		Orchard Oriole	506	13	12	3
		galbula		Baltimore Oriole	507	12	12	1–2
		bullocki		Bullock's Oriole	508	136	90	9
	Scolecophagus	carolinus		Rusty Blackbird	509	78	52	6
		cyanocephalus		Brewer's Blackbird	510	92	64	3
	Quiscalus	quiscula		Purple Grackle	511	77	52	5
			aglæus	Florida Grackle	511[a]	172	114	7
			æneus	Bronzed Grackle	511[b]			
		macrourus		Great-tailed Grackle	512	165	109	13
		major		Boat-tailed Grackle	513	77	52	4
Fringillidæ. Finches, Sparrows, etc.	Coccothraustes	vespertina		Evening Grosbeak	514	133	88	11
	Pinicola	enucleator	canadensis	Pine Grosbeak	515	54	38	9–10
			kadiaka	Kadiak Pine Grosbeak	515[a]			
	Pyrrhula	cassini		Cassin's Bullfinch	516	172	114	5
	Carpodacus	purpureus		Purple Finch	517	69	48	10
			californicus	California Purple Finch	517[a]			
		cassini		Cassin's Purple Finch	518	144	97	8
		mexicanus	frontalis	House Finch	519	108	101	65
		amplus		Guadalupe House Finch	520			
	Loxia	curvirostra	minor	American Crossbill	521	53	38	7–8
			stricklandi	Mexican Crossbill	521[a]	138	92	7
		leucoptera		White-winged Crossbill	522	79	53	3
	Leucosticte	griseonucha		Aleutian Leucosticte	523	135	90	4
		tephrocotis		Gray-crowned Leucosticte	524			
			littoralis	Hepburn's Leucosticte	524[a]			
		atrata		Black Leucosticte	525			
		australis		Brown-capped Leucosticte	526	135	90	5
	Acanthis	hornemannii		Greenland Redpoll	527			
			exilipes	Hoary Redpoll	527[a]	104	71	10
		linaria		Redpoll	528	69	49	2
			holbœllii	Holbœll's Redpoll	528[a]			
			rostrata	Greater Redpoll	528[b]			
	Spinus	tristis		American Goldfinch	529	68	48	7
		psaltria		Arkansas Goldfinch	530	130	86	1
			arizonæ	Arizona Goldfinch	530[a]	172	114	3
			mexicanus	Mexican Goldfinch	530[b]	172	114	2
		lawrencei		Lawrence's Goldfinch	531	131	87	2–3
		notatus		Black-headed Goldfinch	532	132	88	3
		pinus		Pine Siskin	533	157	105	12
	Plectrophenax	nivalis		Snowflake	534	11	10	2
			townsendi	Prybilof Snowflake	534[a]			
		hyperboreus		McKay's Snowflake	535			
	Calcarius	lapponicus		Lapland Longspur	536	80	53	7

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FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Fringillidæ. Finches, Sparrows, etc	Calcarius	pictus		Smith's Longspur	537	140	94	5
		ornatus		Chestnut-collared Longspur	538	140	94	3
	Rhynchophanes	mccownii		McCown's Longspur	539	140	94	4
	Poocætes	gramineus			540	84	48	8
			confinis		540[a]	154	104	13
	Ammodramus	princeps		Ipswich Sparrow	541	172	114	16
		sandwichensis		Sandwich Sparrow	542	154	104	15
			savanna	Savanna Sparrow	542[a]	69	49	1
			alaudinus	Western Savanna Sparrow	542[b]	134	89	6
			bryanti	Bryant's Marsh Sparrow	542[c]			
		beldingi		Belding's Marsh Sparrow	543			
		rostratus		Large-billed Sparrow	544	153	104	9
			guttatus	St. Lucas Sparrow	544[a]	154	104	14
		bairdii		Baird's Sparrow	545	140	94	1
		savannarum	passerinus	Grasshopper Sparrow	546	67	48	3
			perpallidus	Western Grasshopper Sparrow	546[a]	154	104	10
		henslowii		Henslow's Sparrow	547	175	115	6
		leconteii		Leconte's Sparrow	548	153	104	3
		caudacutus		Sharp-tailed Sparrow	549	66	48	1
			nelsoni	Nelson's Sparrow	549[a]			
			subvirgatus	Acadian Sharp-tailed Sparrow	549[b]			
		maritimus		Seaside Sparrow	550	70	49	4
			peninsulæ	Scott's Seaside Sparrow	550[a]			
			sennetti	Texan Seaside Sparrow	550[b]			
		nigrescens		Dusky Seaside Sparrow	551	169	112	1
	Chondestes	grammacus		Lark Sparrow	552	68	48	4
	Zonotrichia	querula		Harris's Sparrow	553	142	95	6
		leucophrys		White-crowned Sparrow	554	49	36	7
		intermedia		Intermediate Sparrow	555	155	104	27
		gambeli		Gambel's Sparrow	556	157	105	14
		coronata		Golden-crowned Sparrow	557	135	90	1
		albicollis		White-throated Sparrow	558	49	36	6
	Spizella	monticola		Tree Sparrow	559	66	48	2
			ochracea	Western Tree Sparrow	559[a]			
		socialis		Chipping Sparrow	560	68	48	6
			arizonæ	Western Chipping Sparrow	560[a]	149	101	10
		pallida		Clay-colored Sparrow	561	155	104	28
		breweri		Brewer's Sparrow	562	155	104	28
		pusilla		Field Sparrow	563	70	49	3
			arenacea	Western Field Sparrow	563[a]			
		wortheni		Worthen's Sparrow	564			
		atrigularis		Black-chinned Sparrow	565	148	101	7
	Junco	aikeni		White-winged Junco	566	154	104	11
		hyemalis		Slate-colored Junco	567	53	38	5–6
			oregonus	Oregon Junco	567[a]	142	95	7
			carolinensis	Carolina Junco	567[b]			
		annectens		Pink-sided Junco	568			
		caniceps		Grey-headed Junco	569	154	104	11
		cinereus	palliatus	Arizona Junco	570			
			dorsalis	Red-backed Junco	570[a]			
		bairdi		Baird's Junco	571			
		insularis		Guadalupe Junco	572			
	Amphispiza	bilineata		Black-throated Sparrow	573	138	92	6
		belli		Bell's Sparrow	574	147	100	10
			nevadensis	Sage Sparrow	574[a]			
	Peucæa	æstivalis		Pine-woods Sparrow	575			
			bachmanii	Bachman's Sparrow	575[a]	95	66	4
		mexicana		Mexican Sparrow	577			
		cassini		Cassin's Sparrow	578	157	105	12
		carpalis		Rufous-winged Sparrow	579	157	105	13
		ruficeps		Rufous-crowned Sparrow	580	147	100	1
			boucardi	Boucard's Sparrow	580[a]			
			scottii	Scott's Sparrow	580[b]			
	Melospiza	fasciata		Song Sparrow	581	4	4	4–5
			fallax	Desert Song Sparrow	581[a]	148	101	9
			montana	Mountain Song Sparrow	581[b]			
			heermanni	Heermann's Song Sparrow	581[c]	153	104	2
			samuelis	Samuel's Song Sparrow	581[d]	153	104	1
			guttata	Rusty Song Sparrow	581[e]	151	103	12
			rufina	Sooty Song Sparrow	581[f]	141	94	9
		cinerea		Aleutian Song Sparrow	582			
		lincolni		Lincoln's Song Sparrow	583	104	71	12
		georgiana		Swamp Song Sparrow	584	67	48	5
	Passerella	iliaca		Fox Sparrow	585	82	56	6

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FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Fringillidæ. Finches, Sparrows, etc.	Passerella		unalaschcensis	Townsend's Sparrow	585[a]	141	94	10
			megarhyncha	Thick-billed Sparrow	585[b]			
			schistacea	Slate-colored Sparrow	585[c]	154	104	26
	Embernagra	rufivirgata		Texas Sparrow	586	172	114	14
	Pipilo	erythrophthalmus		Towhee	587	83	56	8
			alleni	White-eyed Towhee	587[a]	172	114	15
		maculatus	arcticus	Arctic Towhee	588	104	71	11
			megalonyx	Spurred Towhee	588[a]	133	88	12
			oregonus	Oregon Towhee	588[b]	132	88	6
		consobrinus		Guadalupe Towhee	589			
		chlorurus		Green-tailed Towhee	590	140	94	2
		fuscus	mesoleucus	Cañon Towhee	591	144	97	10
			albigula	Saint Lucas Towhee	591[a]	154	104	32
			crissalis	Californian Towhee	591[b]	154	104	31
		aberti		Abert's Towhee	592	144	97	11
	Cardinalis	cardinalis		Cardinal	593	31	28	3–4
			superbus	Arizona Cardinal	593[a]			
			igneus	Saint Lucas Cardinal	593[b]	154	104	22
	Pyrrhuloxia	sinuata		Texan Cardinal	594	154	104	23
			beckhami	Arizona Pyrrhuloxia	594[a]			
	Habia	ludoviciana		Rose-breasted Grosbeak	595	6	5	2–3
		melanocephala		Black-headed Grosbeak	596	141	94	8
	Guiraca	cœrulea		Blue Grosbeak	597	133	88	10
	Passerina	cyanea		Indigo Bunting	598	13	12	4
		amœna		Lazuli Bunting	599	135	90	2
		versicolor		Varied Bunting	600	155	104	24
			pulchra	Beautiful Bunting	600[a]			
		ciris		Painted Bunting	601	93	64	7
	Sporophila	morelleti		Morellet's Seed-eater	602	144	97	4
	Euetheia	bicolor		Grassquit	603			
		canora		Melodious Grassquit	603bis			
	Spiza	americana		Dickcissel	604	82	56	2
	Calamospiza	melanocorys		Lark Bunting	605	138	92	10
Tanagridæ. Tanagers	Euphonia	elegantissima		Blue-headed Euphonia	606			
	Piranga	ludoviciana		Louisiana Tanager	607	133	88	8
		rubriceps		Red-headed Tanager	607bis			
		erythromelas		Scarlet Tanager	608	11	9	5
		hepatica		Hepatic Tanager	609	144	97	6
		rubra		Summer Tanager	610	109	72	7
			cooperi	Cooper's Tanager	610[a]	172	114	6
Hirundinidæ. Swallows	Progne	subis		Purple Martin	611	119	76	8
		cryptoleuca		Cuban Martin	611bis			
	Petrochelidon	lunifrons		Cliff Swallow	612	90	63	3
	Chelidon	erythrogaster		Barn Swallow	613	104	72	1
	Tachycineta	bicolor		Tree Swallow	614	91	63	8
		thalassina		Violet-green Swallow	615	119	76	9
	Clivicola	riparia		Bank Swallow	616	90	63	2
	Stelgidopteryx	serripennis		Rough-winged Swallow	617	90	63	4
Ampelidæ. Waxwings, etc.	Ampelis	garrulus		Bohemian Waxwing	618	103	71	9
		cedrorum		Cedar Waxwing	619	81	56	1
	Phainopepla	nitens		Phainopepla	620	131	88	1
Laniidæ. Shrikes	Lanius	borealis		Northern Shrike	621			
		ludovicianus		Loggerhead Shrike	622	120	76	11
			excubitorides	White-rumped Shrike	622[a]	120	76	10
			gambeli	California Shrike	622[b]			
Vireonidæ. Vireos	Vireo	altiloquus	barbatulus	Black-whiskered Vireo	623	151	103	11
		olivaceus		Red-eyed Vireo	624	71	49	8
		flavoviridis		Yellow-green Vireo	625			
		philadelphicus		Philadelphia Vireo	626	175	115	9
		gilvus		Warbling Vireo	627	72	49	9
			swainsoni	Swainson's Vireo	627[a]	146	100	4
		flavifrons		Yellow-throated Vireo	628	70	49	5
		solitarius		Blue-headed Vireo	629	71	49	6
			alticola	Mountain Solitary Vireo	629[a]			
			cassini	Cassin's Vireo	629[b]			
			plumbeus	Plumbeous Vireo	629[c]	146	100	5
		atricapillus		Black-capped Vireo	630	152	103	16
		noveboracensis		White-eyed Vireo	631	71	49	7
			maynardi	Key West Vireo	631[a]			
		huttoni		Hutton's Vireo	632	152	103	17
			stephensi	Stephens's Vireo	632[a]			
		belli		Bell's Vireo	633	146	100	2
			pusillus	Least Vireo	633[a]	146	100	1
		vicinior		Gray Vireo	634	146	100	3
Cœrebidæ. Honey Creepers	Certhiola	bahamensis		Bahama Honey Creeper	635	95	66	3
Mniotiltidæ. Wood-Warblers	Mniotilta	varia		Black and White Warbler	636	7	5	6
	Protonotaria	citrea		Prothonotary Warbler	637	137	91	2
	Helinaia	swainsoni		Swainson's Warbler	638	100	70	8

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FAMILY.	GENUS.	SPECIES.	SUBSPECIES.	ENGLISH NAMES.	A. O. U. No.	PAGE.	PLATE.	FIGURE.
Mniotiltidæ. Wood-Warblers	Helmitherus	vermivorus		Worm-eating Warbler	639	64	47	4
	Helminthophila	bachmani		Bachman's Warbler	640	100	70	7
		pinus		Blue-winged Warbler	641	65	47	8
		chrysoptera		Golden-winged Warbler	642	63	47	3
		luciæ		Lucy's Warbler	643	172	114	12
		virginiæ		Virginia's Warbler	644	137	92	2
		ruficapilla		Nashville Warbler	645	175	115	10
			gutturalis	Calaveras Warbler	645[a]			
		celata		Orange-crowned Warbler	646	100	70	10
			lutescens	Lutescent Warbler	646[a]	157	105	10
		peregrina		Tennessee Warbler	647	65	47	10
	Compsothlypis	americana		Parula Warbler	648	48	36	1
		nigrilora		Sennett's Warbler	649			
	Dendroica	tigrina		Cape May Warbler	650	65	47	9
		olivacea		Olive Warbler	651			
		æstiva		Yellow Warbler	652	65	47	11
			morcomi	Western Yellow Warbler	652[a]			
			sonorama	Sonora Yellow Warbler	652[b]			
		bryanti	castaneiceps	Mangrove Warbler	653			
		cærulescens		Black-throated Blue Warbler	654	6	5	5
		coronata		Myrtle Warbler	655	53	38	4
		auduboni		Audubon's Warbler	656	99	70	1
		maculosa		Magnolia Warbler	657	48	36	2
		cærulea		Cerulean Warbler	658	50	37	3
		pensylvanica		Chestnut-sided Warbler	659	52	38	1-2
		castanea		Bay-breasted Warbler	660	51	37	5
		striata		Black-poll Warbler	661	52	38	3
		blackburniæ		Blackburnian Warbler	662	48	36	3-4
		dominica		Yellow-throated Warbler	663	7	5	7
			albilora	Sycamore Warbler	663[a]	157	105	17
		graciæ		Grace's Warbler	664	172	114	13
		nigrescens		Black-throated Gray Warbler	665	138	92	8
		chrysoparia		Golden-cheeked Warbler	666	172	114	10
		virens		Black-throated Green Warbler	667	50	37	2
		townsendi		Townsend's Warbler	668	94	70	2
		occidentalis		Hermit Warbler	669	100	70	4
		kirtlandi		Kirtland's Warbler	670	172	114	11
		vigorsii		Pine Warbler	671	63	47	2
		palmarum		Palm Warbler	672	66	47	12
			hypochrysea	Yellow Palm Warbler	672[a]			
		discolor		Prairie Warbler	673	51	37	6
	Seiurus	aurocapillus		Oven-bird	674	51	37	7-8
		noveboracensis		Water Thrush	675	88	62	5
			notabilis	Grinnell's Water Thrush	675[a]			
		motacilla		Louisiana Water Thrush	676	88	62	4
	Geothlypis	formosa		Kentucky Warbler	677	93	64	5
		agilis		Connecticut Warbler	678	82	56	5
		philadelphia		Mourning Warbler	679	51	37	4
		macgillivrayi		Macgillivray's Warbler	680	100	70	6
		trichas		Maryland Yellow-throat	681	9	7	3-4
			occidentalis	Western Yellow-throat	681[a]			
		beldingi		Belding's Yellow-throat	682			
	Icteria	virens		Yellow-breasted Chat	683	110	72	9
			longicauda	Long-tailed Chat	683[a]	152	103	13
	Sylvania	mitrata		Hooded Warbler	684	13	12	5
		pusilla		Wilson's Warbler	685	63	47	1
			pileolata	Pileolated Warbler	685[a]	157	105	19
		canadensis		Canadian Warbler	686	64	47	7
	Setophaga	ruticilla		American Redstart	687	6	5	4
		picta		Painted Redstart	688	134	89	4
		miniata		Red-bellied Redstart	689			
	Cardellina	rubrifrons		Red-faced Warbler	690			
	Ergaticus	ruber		Red Warbler	691			
	Basileuterus	culicivorus		Brasher's Warbler	692			
		belli		Bell's Warbler	693			
Motacillidæ. Wagtails	Motacilla	alba		White Wagtail	694			
		ocularis		Swinhoe's Wagtail	695			
	Budytes	flavus	leucostriatus	Siberian Yellow Wagtail	696	163	109	4
	Anthus	pensilvanicus		American Pipit	697	82	56	3
		pratensis		Meadow Pipit	698	178	117	10
		cervinus		Red-throated Pipit	699			
		spraguei		Sprague's Pipit	700	165	109	18
Cinclidæ. Dippers	Cinclus	mexicanus		American Dipper	701	139	93	6
Troglodytidæ. Wrens, Thrashers, etc.	Oroscoptes	montanus		Sage Thrasher	702	173	114	19
	Mimus	polyglottos		Mockingbird	703	150	103	3

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Troglodytidæ. Wrens, Thrashers, etc.	Galeoscoptes	carolinensis		Catbird	704	8	7	2
	Harporhynchus	rufus		Brown Thrasher	705	109	72	8
		longirostris	sennetti	Long-billed Thrasher	706	152	103	19
		curvirostris		Curve-billed Thrasher	707	151	103	4
			palmeri	Palmer's Thrasher	707[a]			
		bendirei		Bendire's Thrasher	708	149	103	2
		cinereus		St. Lucas Thrasher	709	151	103	6
		redivivus		Californian Thrasher	710	151	103	5
		lecontei		Leconte's Thrasher	711	152	103	20
		crissalis		Crissal Thrasher	712	149	103	1
	Campylorhynchus	brunneicapillus		Cactus Wren	713	144	97	5
		affinis		St. Lucas Cactus Wren	714	151	103	8
	Salpinctes	obsoletus		Rock Wren	715	102	71	5
		guadeloupensis		Guadalupe Rock Wren	716			
	Catherpes	mexicanus		White-throated Wren	717	132	88	5
			conspersus	Cañon Wren	717[a]			
	Thryothorus	ludovicianus		Carolina Wren	718	78	52	8
			miamensis	Florida Wren	718[a]			
		bewickii		Bewick's Wren	719	102	71	6
			spilurus	Vigor's Wren	719[a]	151	103	7
			murinus	Baird's Wren	719[b]	152	103	18
		brevicaudus		Guadalupe Wren	720			
	Troglodytes	aëdon		House Wren	721	83	56	7
			parkmanii	Parkman's Wren	721[a]	152	103	22
			aztecus	Western House Wren	721[b]			
		hiemalis		Winter Wren	722	50	36	8
			pacificus	Western Winter Wren	722[a]			
		alascensis		Alaskan Wren	723	152	103	21
	Cistothorus	stellaris		Short-billed Marsh Wren	724	87	61	2
		palustris		Long-billed Marsh Wren	725	5	4	6–7
		marianiæ		Marian's Wren	725bis			
Certhiidæ. Creepers	Certhia	familiaris	americana	Brown Creeper	726	79	53	5
			mexicana	Mexican Creeper	726[a]			
Paridæ. Nuthatches and Tits	Sitta	carolinensis		White-breasted Nuthatch	727	2	2	5–6
			aculeata	Slender-billed Nuthatch	727[a]	151	103	10
		canadensis		Red-breasted Nuthatch	728	73	50	2
		pusilla		Brown-headed Nuthatch	729	92	64	4
		pygmæa		Pygmy Nuthatch	730	151	103	9
	Parus	bicolor		Tufted Titmouse	731	30	28	2
			texensis	Texan Tufted Titmouse	731[a]			
		atricristatus		Black-crested Titmouse	732	152	103	15
			castaneifrons	Chestnut-fronted Titmouse	732[a]			
		inornatus		Plain Titmouse	733	148	104	4
			griseus	Gray Titmouse	733[a]			
			cineraceus	Ashy Titmouse	733[b]			
		wollweberi		Bridled Titmouse	734	138	92	5
		atricapillus		Chickadee	735	42	32	4
			septentrionalis	Long-tailed Chickadee	735[a]	176	115	11
			occidentalis	Oregon Chickadee	735[b]	152	103	14
		carolinensis		Carolina Chickadee	736	108	72	5
			agilis	Plumbeous Chickadee	736[a]			
		meridionalis		Mexican Chickadee	737			
		gambeli		Mountain Chickadee	738	134	89	5
		cinctus	obtectus	Siberian Chickadee	739			
		hudsonicus		Hudsonian Chickadee	740	79	53	3
		stoneyi		Kowak Chickadee	740bis			
		rufescens		Chestnut-backed Chickadee	741	102	71	3
			neglectus	Californian Chickadee	741[a]			
	Chamæa	fasciata		Wren-Tit	742	134	89	7
			henshawi	Pallid Wren-Tit	742[a]			
	Psaltriparus	minimus		Bush-Tit	743	135	90	8
			californicus	Californian Bush-Tit	743[a]			
			grindæ	Grinda's Bush-Tit	743[b]			
		plumbeus		Lead-colored Bush-Tit	744	137	92	3
		lloydi		Lloyd's Bush-Tit	744bis			
		melanotis		Black-eared Bush-Tit	745			
	Auriparus	flaviceps		Verdin	746	138	92	4
Sylviidæ. Warblers, Kinglets, Gnatcatchers	Phyllopseustes	borealis		Kennicott's Willow Warbler	747	172	114	9
	Regulus	satrapa		Golden-crowned Kinglet	748	64	47	5
			olivaceus	Western Golden-crowned Kinglet	748[a]			
		calendula		Ruby-crowned Kinglet	749	64	47	6
		obscurus		Dusky Kinglet	750			
	Polioptila	cærulea		Blue-gray Gnatcatcher	751	50	37	1
		plumbea		Plumbeous Gnatcatcher	752	139	93	4
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ORDER PASSERES. PERCHING BIRDS.—*Continued.*

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		fuscescens		Wilson's Thrush	756	173	114	22
			salicicolus	Willow Thrush	756[a]			
		aliciæ		Gray-Cheeked Thrush	757	175	115	5
			bicknelli	Bicknell's Thrush	757[a]			
		ustulatus		Russet-backed Thrush	758	173	114	23
			swainsonii	Olive-backed Thrush	758[a]	173	114	24
		aonalaschkæ		Dwarf Hermit Thrush	759	101	70	12
			auduboni	Audubons Hermit Thrush	759[a]	173	114	20
			pallasii	Hermit Thrush	759[b]	48	36	5
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	Merula	migratoria		American Robin	761	97	67	4
			propinqua	Western Robin	761[a]			
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	Hesperocichla	nævia		Varied Thrush	763	101	70	11
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	Sialia	sialis		Bluebird	766	22	23	
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		mexicana		Western Bluebird	767			
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The Birds of North America.

Popular History.

PLATE I.

The White-headed or Bald Eagle. (*Haliaëtus leucocephalus.*)

This noble bird being the adopted emblem of our beloved Republic, it is first introduced to the kind reader; and he is indeed fully entitled to a particular notice, as he is the most beautiful of his tribe in North America.

The Bald Eagle has long been known to naturalists, being common to both Continents, and has occasionally been found in very high northern latitudes, as well as near the borders of the torrid zone, chiefly in the vicinity of the sea or on the shores and cliffs of lakes and large rivers. His food consists chiefly of fish, of which he seems to be very fond, but he will not refuse, when driven by hunger, to regale himself on a lamb or young pig; he will even, "in hard times," snatch from a vulture the carrion on which he is feeding.

The ardor and energy of the Bald Eagle might awaken a full share of deep interest, were they not associated with so much robbery and wanton exercise of power, for he habitually despoils the Osprey or Fish-hawk of his prey. Of the singular manner in which he does this, Alexander Wilson, in his work on North American birds, says:

"Elevated on a high dead limb of some gigantic tree, that commands a wide view of the neighboring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below—the snow-white Gulls, slowly winnowing the air; the busy Tringæ (Sandpipers) coursing along the sands; trains of Ducks, streaming over the surface; silent and watchful Cranes, intent and wading; clamorous Crows, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one whose action instantly arrests his whole attention. By his wide curvature of wing and sudden suspension in the air, he knows him to be the Fish-hawk, settling over some devoted victim of the deep. His eye kindles at the sight, and balancing himself with half-opened wings on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of his wings reaching the ear, as it disappears in the deep, making the surges foam around. At this moment, the eager looks of the eagle are all ardor, and leveling his neck for flight, he sees the Fish-hawk once more emerge struggling with his prey and mounting in the air with screams of exultation. These are the signals for our hero, who, launching into the air, instantly gives chase, and soon gains on the Fish-hawk; each exerts his utmost to mount above the other, displaying in these rencounters the most elegant and sublime aerial evolutions. The unincumbered Eagle rapidly advances, and is just at the point of reaching his opponent, when, with a sudden scream, probably of despair and honest execration, the latter drops his fish; the Eagle, poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently to the woods."

Dr. Franklin is rather severe on this emblem of our National Union. He says:

"For my part, I wish the Bald Eagle had not been chosen as the representative of our country. He is a bird of bad moral character; he does not get his living honestly. You may have seen him perched upon some dead tree, where, too lazy to fish for himself, he watches for the labors of the Fishing-hawk, and when that diligent bird has at length taken a fish, and is bearing it to his nest for the support of his mate and young ones, the Bald Eagle pursues him, and takes it from him. With all this injustice, he is never in good case, but like those among men who live by sharping and robbing, he is generally poor, and very often lousy. Besides, he is a rank coward; the little King-bird, not bigger than a sparrow, attacks him boldly, and drives him out of the district. He is, therefore, by no means a proper emblem for the brave and honest Cincinnati of America, who have driven out all the King-birds from our country, though exactly fitted for the order of knights which the French call Chevaliers d'Industrie."

The Falls of Niagara are one of his favorite haunts, on account of the fish caught there, and the attraction presented by the numerous remains of squirrels, deer, and other animals, which perish in attempting to cross the river above the cataract.

The nest of this species is generally fixed on a very large and lofty tree, often in a swamp or morass, and difficult to ascend. It is formed of large sticks, sods, earthy rubbish, hay, corn-stalks, rushes, moss, etc., and contains, in due time, two eggs of about the size of a goose egg and of a bluish white color. The young are at first covered with a whitish or cream-colored down and have light bluish eyes. This cream color changes gradually into a bluish gray; as the development of the feathers advances, the light blue eyes turn by degrees to a dark hazel brown; when full grown, they are covered wholly with lighter or darker brown feathers, until after the third year, when the white of the head and tail gradually appears; at the end of the fourth year he is perfect and of an appearance as seen on our plate, his eyes having changed to a bright straw color.

The Bald Eagle is three feet long, and measures from tip to tip of the wing about seven feet. The conformation of the wing is admirably adapted for the support of so large a bird; it measures two feet in breadth on the greater quills and sixteen inches on the lesser; the larger primaries are about twenty inches in length and upward of one inch in circumference where they enter into the skin; the broadest secondaries are three inches in breadth across the vane; the scapulars are very large and broad, spreading from the back to the wing, to prevent the air from passing through. Another range of broad flat feathers, from three to ten inches long, extends from the lower part of the breast to the wing below for the same purpose, and between these lies a deep triangular cavity; the thighs are remarkably thick, strong, and muscular, covered with long feathers pointing backward. The legs are half covered below the tarsal joint; the soles of the feet are rough and warty.

The male is generally three inches shorter than the female; the white on the head and tail is duller, and the whole appearance less formidable; the brown plumage is lighter, and the bird himself is less daring than the female, a circumstance common to all birds of prey.

PLATE II.

This plate represents a scene which was witnessed by Dr. Jasper, resting near a patch of woods, between the Scioto river and the canal, about two miles and a half south of Columbus, Ohio, on one of his shooting excursions in the month of May.

A pair of Red-headed Woodpeckers had a nest in the old stump of a decayed tree; the entrance to it undoubtedly had been made by the Yellow Hammer, as the size of it indicated, it being considerably larger than the Red-heads usually make. I had previously examined this nest; there were four eggs in it at the time. At first a male Yellow Hammer tried his best to force an entrance, but was effectually repulsed by the Red-heads. The female Yellow Hammer was during this time most indolently sitting on another stump of a broken tree, seeming not to take any interest in the doings of her mate; but some time after, perhaps pressed by the necessity of laying her egg, she too took an active part against the Red-heads, and the united strength of both finally overpowered them, and they had to abandon their nest and eggs to the Yellow Hammers, who, in their turn, after having thrown out the eggs of the Red-heads, installed themselves in the nest.

The two Nuthatches which we see in the plate were led only by curiosity; they merely wanted to see what the racket was about.

The Gold-winged Woodpecker. (*Colaptes auratus.*)

Fig. 1, The male. Fig. 2, The female.

Though this species, generally speaking, is migratory, yet they often remain north during the whole winter. They inhabit the continent of North America from Hudson's Bay to Georgia; they have even been found on the northwest coast of the continent. They generally arrive at Hudson's Bay in the middle of April, and leave in September. The natives there call them Ou-thee-quannor-ow, from the golden color of their shafts, and the lower side of the wings. This bird has numerous provincial appellations in the States of the Union, such as "High-hole," from the situation of its nest, and "Hittucks," "Yucker," "Piut," "Flicker," "Yellow Hammer," etc. Most of these names have probably originated from a fancied resemblance of its notes to the sound of the words; for the most common cry of the Gold-winged Woodpecker consists of two notes or syllables, often repeated, which, by the help of the hearer's imagination, may seem to resemble any of them.

The Gold-winged Woodpecker builds his nest about the middle of April, usually in the hollow body or branch of a tree, at considerable height above the ground, but not always, for I found the nest of one in an apple tree, less than three feet above the ground. The female lays five or six white, almost transparent eggs, very thick at one end and tapering suddenly toward the other; the young leave the nest early, climbing to the higher branches, where they are fed by the parents. Their plumage, in its color and markings, resembles that of the parent birds, with the exception that the colors are less brilliant, and the dots appear less frequently on the breasts of the young than on those of the old birds. The food varies according to seasons, and consists of worms, berries, seeds, Indian corn, etc., and this is perhaps the reason why farmers destroy this bird whenever they have a chance.

Formerly he was classed by many of the ornithologists among the Cuckoos, which was an absurdity, as he has no resemblance to them. The tongue is constructed like that of all the Woodpeckers, and he has no resemblance to the Cuckoo, except that two of his toes are placed before and two behind; he not only alights on the branches of a tree, but most frequently on the trunk, on which he will climb up or down or spirally around it, just as his fancy may be; when on the ground, he hops; his flesh is in quite good esteem.

The Red-headed Woodpecker. (*Melanerpes erythrocephalus.*)

Fig. 3, The male. Fig. 4, The female.

This bird is more universally known than any other bird in North America. His plumage, red, white, and black, glossed with violet, added to his numbers and his peculiar fondness for hovering along the fences, is so very notorious that almost everybody is acquainted with him. His food consists chiefly of insects, of which he destroys a large quantity daily; but he is also very fond of cherries, pears, sweet apples, and other fruit; wherever there is a tree covered with ripe cherries, you may see him busy among the branches; in passing an orchard, you may easily know where to find the earliest and sweetest apples, by observing those trees on or near which the Red-head is skulking, for he is an excellent connoisseur of good fruit; when alarmed on such occasions, he seizes a capital one, by sticking his open bill into it, and bears it off to the woods. He also likes Indian corn, when in its rich, succulent, milky state, opening with great eagerness a passage through the numerous folds of the husk. The girdled, or deadened timber, so common among corn-fields, is his favorite retreat, whence he sallies out to make his depredations. He is of a very gay and frolicsome disposition; half a dozen are frequently seen diving and vociferating around the dead high limbs of some large tree, pursuing and playing with each other, amusing the passenger with their gambols. The cry of the Red-headed Woodpecker is shrill and lively, and resembles very much the cry of the tree-frog.

Farmers generally hate and destroy him whenever they have a chance; but whether this is just or not we will leave to them. It is stated above that he also destroys thousands and thousands of destructive insects and their larvæ, and therefore we would say to the farmer, in the benevolent language of the Scriptures, not to "muzzle the mouth of the ox that treadeth out the corn;" and the same liberality should be extended to this useful bird that forms so powerful a defense against the inroads of many millions of destructive vermin.

Properly speaking, the Red-headed Woodpecker is a bird of passage. They inhabit North America from Canada to the Gulf of Mexico, and have also been found on the northwestern coast. About the middle of May they construct their nests, which they form in the body or large limbs of trees, taking in no materials, but smoothing the nests to the proper shape and size. The female lays six eggs of a pure white, and the young make their appearance about the 20th of June. During the first season, the head and neck of the young birds are blackish gray, the white on the wing is also spotted with black, but in the succeeding spring they receive their perfect plumage, as on our plate. The male and female differ in nothing except that the female is a trifle smaller.

The White-breasted, Black-capped Nuthatch. (*Sitta carolinensis.*)

Fig. 5, The male. Fig. 6, The female.

The White-breasted Nuthatch is common almost everywhere in our woods and may be known at a distance by his peculiar note—quank, quank—frequently repeated, as he moves up and down in spiral circles, around the body and larger branches of the tree, probing behind the thin, scaly bark, shelling off considerable pieces of it in search of spiders or other insects and their larvæ. He rests and roosts with his head downward, and appears to possess an uncommon degree of curiosity. Frequently I have amused myself, when in the woods, imitating the voice of a bird in distress, to see who would be the first to appear, and invariably the Nuthatch made his appearance first to see what was the matter. Frequently he will descend very silently within a few feet of the root of the tree where you happen to stand, stopping head downward, stretching out his neck in a horizontal position, as if to reconnoiter your appearance, and after several minutes of silent observation,

2
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PL. III

wheeling round, he again ascends with fresh activity, piping his "quank, quank," as before. He is strangely attached to his native forests and seldom forsakes them; amidst the rigors of the severest winter weather his lively quank, quank is heard in the bleak and leafless woods. Sometimes the rain, freezing as it falls, incloses every twig and even the trunk of the trees in a hard transparent coat or shell of ice; on such occasions we observe his anxiety and dissatisfaction, as being with difficulty able to make his way along the smooth surface. At such times he generally abandons the woods and may be seen gleaning about the stables, around the house, mixing among the fowls, entering the barn and examining the beams and rafters and every place where he can pick up a subsistence.

The name Nuthatch is very erroneously bestowed on this family of birds. It was supposed that they could crack the hardest nuts with their bills by repeated hammerings; soft-shelled nuts, such as chestnuts, hazel-nuts, and a few more of this description, they may perhaps be able to demolish, but I never have seen them do it. Hard-shelled nuts, such as walnuts, hickory-nuts, etc., they are perfectly incapable of breaking, as their bills are not at all shaped for that kind of work. This absurd idea may have had its origin in the circumstance that we frequently observe the Nuthatch busily searching for insects in heaps of shells of broken nuts, lying on some old stump of a tree, or around it, brought there or broken by the squirrels, whilst ignorance ascribed the broken nuts to the doings of the feeble little bird.

This bird builds his nest early in April, in the hole of a tree, in a hollow rail of a fence, and sometimes in the wooden cornice under the eaves; the female lays five eggs of a dull white, spotted with brown at the greater end. The male is the most attentive husband and supplies his beloved mate, while setting, regularly with sustenance, stopping frequently at the mouth of the hole, calling and offering her what he has brought. At other times he seems merely to stop and inquire how she is, and to cheer up the tedious moments with his soothing chatter. He seldom goes far from the spot, and when danger appears, regardless of his own safety, he flies to alarm her. When both feed on the trunk of the same tree or on adjoining ones, he is perpetually calling on her, and from the momentary pauses he makes, it is evident that he feels pleased to hear her reply.

The female differs very little from the male in color, the black being only less deep on the head and wings.

PLATE III.

The White or Whooping Crane. (*Grus* [*Ardea*] *americana.*)

In former times the Cranes were classed with the Herons, to which they bear a certain alliance, but were afterward, with propriety, separated from them, and now form a very natural division in that great class. They are all at once distinguished from the Herons (Ardeæ) by the bald head and the broad, waving, and pendulous form of the greater coverts, and the shortness of the hind toe. The Crane is found in every part of the world, but the group is, notwithstanding, limited to a few species.

Our species, the Whooping Crane, is the tallest and most stately of all the feathered tribes of North America. He is the watchful inhabitant of extensive salt marshes, desolate swamps, and open morasses in the neighborhood of the sea and large rivers. He is migratory, and his migrations are regular and most extensive, reaching from the shores and inundated tracts of South America to the Arctic Circle. In these immense periodical wanderings, they rise to such a height in the air as to be seldom observed, and form at such times regular lines in about a sharp angle, frequently changing their leader, or the one that flies foremost. They have, however, their resting stages on the route to and from their usual breeding-place, the more northern regions; and during their stay, they wander along the muddy flats in search of worms, sailing occasionally from place to place with a low and heavy flight a little above the surface, and have at such times a very formidable appearance. Their cry is loud and piercing, and may be heard at a distance of two miles; they have various modulations of this singular cry. When wounded, they attack the gunner or his dog with great resolution, striking with their sharp and formidable bills. They are extremely watchful, but not shy. When alone, they are constantly on the alert, and a flock of them has always regular guards. When alarmed, they never return to the same place without sending out a number to reconnoiter. As cautiously as he avoids man, he becomes as closely attached to him, when once brought into his companionship; he learns to understand every action of his master, knows his voice and shows his satisfaction when he sees him: he not only regards him as his master, but as his friend; society seems to be a necessity to him. One that I received from Dubuque, Iowa, which was caught on the Mississippi by a trapper, and has been living with me nearly four years, was at first very ferocious and could only be approached with great difficulty, but is now perfectly tame. It became in a very short time reconciled to its imprisonment, and is now very much attached to me.

The Cranes sometimes rise spirally in the air to a great height, the mingled noise of their screaming, even when almost out of sight, resembling that of a pack of hounds in full cry. On such occasions they fly around in large circles, as if reconnoitering the country to a vast extent for a fresh quarter to feed in. At other times, they assemble in great masses, forming in regular lines and standing erect, with their bills resting on the throat, whilst one will step out, open his wings and dance in the most ridiculous way before the others—the people on the Mississippi call this "preaching;" at other times several will dance regularly around each other with outspread wings. They live chiefly on vegetable food, such as Indian corn; but readily swallow mice, rats, moles, etc., with great avidity. They build their nest on the ground, about one foot in height, and lay two pale blue eggs, spotted with brown, as large as a goose egg, but more lengthened. The Cranes, as above stated, are distinguished from the other families by the baldness of their heads, the broad flag of plumage projecting over the tail, and in general by their superior size. They also differ in their internal organization, in the conformation of the windpipe, which enters the breast in a cavity fitted to receive it, and after several turns goes out again at the same place, and thence descends to the lungs. Unlike the Herons, they have not the inner side of the middle claw pectinated; and the hind toe is very short, scarcely reaching the ground. The brown Crane (Grus Canadensis) is no other than the young of the Whooping Crane.

All the descriptions of former ornithologists are exactly correspondent with the above. In a flock of ten or twelve Whooping Cranes, three or four are usually of that tawny or reddish-brown tint on the back, scapulars, and wing-coverts, but are evidently yearlings of the Whooping Crane, and differ in nothing but in that and in size from the others. They are generally five or six inches shorter, and the primaries are of a brownish cast, and their legs are also a trifle darker.

PLATE IV.

The Rail. (*Crex carolinus.*)

Fig. 1, Male. Fig. 2, Female.

The Rail, or as it is called in Virginia, the Sora, and in South Carolina the Coot, belongs to a genus of birds, of which, as nearly as can be ascertained, about thirty-two different species are known to naturalists, and those are distributed over almost every region of the habitable parts of the globe. The general character of them is everywhere the same. They run swiftly, but their flight is

slow, and with the legs hanging down; they become extremely fat, and fond of concealment, and usually prefer running to flying. Most of them are migratory and abound during the summer in certain countries, the inhabitants of which have very rarely an opportunity of seeing them.

The Rail usually builds his nest in a tussock of grass; the nest is formed of a little dry grass. The female lays from four to six eggs of a dirty whitish color with brown or blackish spots; the young ones run off as soon as they are hatched: they are covered with a perfectly black down, and run about among the grass like mice.

The Rails arrive at Hudson's Bay, and other northern parts, early in June, breed there, and leave again for the south early in autumn. But it is certain that some of them remain with us, as I have caught *young* Rails myself in the latter part of the month of June on the Connecticut river, just a little above the town of Wethersfield, in a swampy or reedy place, called there the Wethersfield Cove. I have also been informed, by persons of credit and intelligence, in several places of the Union, that they had found nests, as well as young Rails; but what is singular, none of them had ever seen at that time the old ones. The Rails, as well as the Bobolinks, are very fond of the seeds of two different kinds of reeds, which grow up from the soft muddy shores of the tide water, and are alternately dry and then covered again with four or five feet of water. They rise with an erect, tapering stem to the height of six or eight feet. They grow up so close together that a boat can only with difficulty make its way through them at or near the time of high water. The seeds are produced at the top of the plant, the blossoms occupying the lower branches of the panicle and the seeds the higher.

These seeds are nearly as long as an ordinary pin and very slender, white, and sweet to the taste; also very nutritious, as appears by the effect they have on the various birds that at this time feed on them. When the reeds are in this state, the Rails take possession of them in great numbers. At this season, as you walk along the embankment of a river where these reeds grow, you can hear the Rails squeak in every direction like young puppies. If a stone be thrown among them, there is a general outcry and a reiterated "keek, keek, keek," somewhat like that of a Guinea fowl; any other sudden noise, as the discharge of a gun, produces the same effect. In the meantime none are to be seen, unless it be at or near high water; for when the tide is low, they universally secrete themselves among the interstices of the reeds, and you may walk past or even over them—where there are hundreds—without seeing a single one. On their arrival they are generally lean and unfit for the table, but as the seeds of the reeds ripen, they fatten rapidly, and from about the middle of September to the middle of October, are excellent and eagerly sought for. Their flight among these reeds is usually low, and shelter being abundant, it is rarely extended to more than from ten to fifty yards. When winged and uninjured in their legs, they swim and dive with great rapidity, and are seldom seen to rise again.

I have found them several times, on such occasions, under the water, clinging with their feet to the reeds. They are very feeble and delicate in every part, except the legs, which seem to possess great strength; their bodies being remarkably thin and compressed, measuring not more than an inch and a quarter through transversely, they are enabled to pass between the reeds like rats. When seen, they are almost constantly jetting up the tail. Fluttering as their flight appears in the reeds, I have seen them at other times rise to a considerable height, stretching their feet behind them and flying to such distances that I really lost sight of them. In the State of New Jersey, where this particular kind of reed does not grow, we find no Rails. Most of them leave the Middle States before the end of October, and the Southern States early in November, though some are found lingering in the warm southern marshes the whole winter. Numbers of them have been found in the West Indies at the time of our winter season, which makes it evident that they migrate across that part of the sea between the mainland and the islands; and why should this be impossible? As the Rail can swim and dive well and fly at pleasure, he seems to me well fitted for such an undertaking.

The young Rails, the first season, resemble the females.

Some modern ornithologists have classed this bird under the genus Gallinulæ; but this seems to me altogether wrong, as all Rails are destitute of a frontal plate, which characterizes the Gallinulæ; they otherwise have certainly a strong resemblance to them.

The Virginia Rail. (*Rallus virginianus.*)

Fig. 3.

This elegant little bird is far less numerous in this part of the United States than the preceding, but inhabits more remote northern regions. He is frequently seen along the borders of our salt marshes, which are rarely visited by the Sora; he breeds there as well as among the meadows that border our large rivers. He is met with in the interior, as far west as the Ohio river; also in Kentucky in the groves and wet places, but only in the spring. He feeds less on vegetable and more on animal food than the common Rail. The food of this species consists chiefly of small snail shells, worms, and the larvæ of insects that it extracts from the mud with its long bill, which is wonderfully adapted to it. On this account its flesh is much inferior to the former; otherwise, its habits, its thin compressed body, its aversion to take to the wing, and the dexterity with which it runs and conceals itself among the grass, are exactly similar to those of the common Rail, from which genus, notwithstanding the difference of its bill, it ought not to be separated.

Some people call this bird the Fresh Water Mud Hen. The epithet "fresh water" is given to it because of its frequenting only those parts of the marsh where fresh water springs rise through the bogs into the salt marshes. In such places it usually constructs its nest, which is composed altogether of old dry grass and rushes. The female lays from six to ten eggs of a dirty white or cream color, sprinkled with specks of reddish and pale purple, most numerous near the greater end. They commence laying early in May, and probably raise two broods in the season. The young of this species are also covered with a pure black down, and have a white spot on their bill, and a soft and piping note. The female is about half an inch shorter than the male, the color of the breast is paler, and a little more white on the throat and chin.

These birds, like the preceding, stand and run with the tail erect, which they frequently jerk upward; they also fly exactly like them, with the legs hanging down, but only a short distance, and the moment they alight run off with great speed.

The Song Sparrow. (*Melospiza melodia.*)

Fig. 4, Male. Fig. 5, Female.

The Song Sparrow may be found in all parts of the United States; he is the earliest, sweetest, and most lasting singer of all the Sparrows. We may call them partially migratory, for the most of them pass to the south in the month of November; but many remain with us all winter, in the low sheltered meadows and swamps. He is the first singing-bird in spring, taking precedence of the Peewee and Bluebird. His song, resembling the beginning of the Canary's song, or perhaps rather the song of the European Yellow Hammer (Emberiza Citrinella), is very short but exceedingly sweet, and frequently repeated, generally from the branches of a bush or small tree, where he sits, chanting for an hour at a time. He is very fond of frequenting the borders of rivers, meadows, swamps, and other like watery places. He is found, with a multitude of other kinds of Sparrows, in the great Cypress swamps

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of the Southern States, which seem to be the places of their grand winter rendezvous.

The nest of the Song Sparrow is built in the ground under a tuft of grass, and is formed of fine dry grass, lined with horse-hair and other material; it lays four or five eggs of a bluish white, thickly covered with reddish-brown spots. It raises usually three broods in the season. There are young ones often found in the nest as early as the latter part of April, and as late as the tenth of August. Sometimes the nest is built in a cedar tree, six to eight feet from the ground, which seems to be very singular for a bird that usually builds on the ground; but this same habit is found in another bird—the Red-winged Starling, which sometimes builds its nest in the long grass or swamps, or in the rushes, and at other times in low trees or alder-bushes. The male and female are so nearly alike as to be scarcely distinguished from each other.

The Marsh Wren. (*Cistothorus palustris.*)

Fig. 6, Male. Fig. 7, Female.

The Marsh Wren arrives from the South about the middle of May; as soon as the reeds and a species of Nymphica, usually called "Splatter-dock"—which grow in luxuriance along the tide-water of our rivers—are sufficiently high to shelter it. In such places he is usually found, and seldom ventures far from the river. His food consists of insects and their larvæ, and a kind of small green grasshopper that inhabits the reeds and rushes. His notes or chirp has a crackling sound, resembling somewhat that produced by air-bubbles, forcing their way through mud, or boggy ground when trod upon, and can hardly be called a song. But low as he may stand as a singer, he stands high as an architect, for he excels in the art of design, and constructs a nest, which, in durability, warmth, and convenience, is far superior to the most of his musical brethren. The outside is usually formed of wet rushes, well intermixed with mud and fashioned into the shape of a cocoa-nut; a small round hole is left two-thirds up for his entrance, the upper edge of which projects like a pent-house, over the lower, preventing the admittance of rain. Inside it is lined first with fine dry grass, then with cow's hair and sometimes feathers. This nest, when once dried by the sun, will resist any kind of weather, and is generally suspended among the reeds and tied so fast to the surrounding ones as to bid defiance to the wind and waves. The female usually lays six eggs of a fawn color, and very small for the size of the bird. They raise usually two broods in a season.

He has a strong resemblance to the house Wren and still more to the winter Wren, but he never associates with either of them; and the last named has left before the Marsh Wren makes his appearance, which is about the beginning of September. The hind claw of this little bird is large, semicircular, and very sharp; his bill slender and slightly bent; the nostrils prominent; the tongue narrow, very tapering, sharp-pointed, and horny at the extremity; and for this reason he ought to be classed—as some naturalists really have done with good cause—among the true Certhiadæ, or Creepers. His habits are also like those of the Creepers, as he is constantly climbing along the stalks of reeds and other aquatic plants in quest of insects.

PLATE V.

The Great Horned Owl. (*Bubo virginianus.*)

Fig. 1.

This well known formidable Owl is found in almost any part of North America, from the icy regions to the Gulf of Mexico; also on the Western coast, but most abundantly in the central part of this continent.

His favorite resorts are the dark solitudes of swamps covered with a growth of gigantic timber, which he makes resound with his hideous cries, as soon as night sets in. At times he sweeps down from a tree, uttering his loud Waugh O! Waugh O! so close to you, and so unexpectedly, that you can not help being startled. Besides this favorite note of his, he has other nocturnal solos, just as melodious, especially one that resembles very strikingly the half-suppressed screams of a person being nearly suffocated; but after all, his peculiar cry is very entertaining. Another of his notes sounds like the loud jabbering and cackling of an old rooster pursued by a dog, and is kept up sometimes for half an hour. You will always take pleasure in observing him, and often, when quietly sitting under a tree, he will sweep so close by you as almost to touch you with his wings; but generally he shuns the presence of men, and seems to know that man is the worst of his enemies.

At night he is very cautious, and even in the day-time he suffers no one to approach—unlike the rest of the Owls, which allow the gunner to approach them without showing signs of being alarmed. The Great Horned Owl is rarely seen in day-time, the peculiar coloring of his feathery dress agreeing perfectly with the bark of the tree on which he sits, almost motionless. It sometimes happens, however, that one of the smaller warblers discovers him, and alarms, by his cries, the whole feathered population of the forest, which now tease and keep on annoying him till he is at last compelled to leave his resting-place in disgust.

But it is a different thing at night; then he is lord. His flight, which, in day-time, appears rather awkward, is then silent and very swift. Sweeping low above the ground, generally, like the rest of the Owl tribe, he rises also, with ease, to great heights, and his movements are so quick that he catches regularly any bird he has scared up from sleep. Any bird—the smallest warbler as well as a chicken or a duck—will serve him for a meal; and this may account for the circumstance that all birds, without an exception, hate him. He lives also on squirrels, rats, and mice, of which he destroys great numbers.

He pairs usually in February. At this time the male, after having performed the most ridiculous evolutions in the air, alights near his chosen female, whom he delights with his boundings, the snapping of his bill, and his extremely ludicrous movements. This style of love-making he practices in day-time as well as at night.

His nest, which is proportionally very large, is usually built on a thick horizontal branch of a big tree, close to the trunk. It has been found in the crevice of a rock. It is composed of crooked sticks and coarse grasses, fibers, and feathers, inside. The eggs, which number from three to five, and even six, are almost globular, rough, and of a dirty white color. The male assists the female in sitting on the eggs. The young are covered at first with a thick white down, and remain in the nest until fully fledged. Even then they follow their parents for a long time and are fed by them, uttering a mournful, melancholy cry, perhaps to stimulate them to pity. They are much lighter colored than the old ones, and acquire their full plumage in the following spring.

Although the Great Horned Owl, as above stated, prefers retirement, he sometimes takes up his abode in the vicinity of a detached farm, and causes great havoc among the poultry, especially the young poultry, of the farmer, by occasionally grasping a chicken or Guinea fowl with his talons, and carrying it off to the woods. When wounded, he exhibits the most revengeful tenacity of spirit, disdaining to scramble away like other Owls, but courageously facing his enemy, producing his powerful talons and snapping his bill. At such times his large eyes seem to double their usual size, and he shuts and opens them alternately in quick succession as long as his enemies remain in his presence. The rising of his feathers on such an occasion gives him a very formidable appearance, and makes him look nearly twice as large as usual.

In former times, this Owl, as well as Owls in general, was regarded with a great deal of superstition, and we often find the Owl

introduced in gloomy midnight stories and fearful scenes of nature, to heighten the horror of the picture; but knowledge of the general laws and productions of Nature has done away with this superstitious idea, as well as with so many others. With all his gloomy habits and ungracious tones, there is nothing mysterious about this bird, which is simply a bird of prey, feeding at night and resting during the day. The harshness of his voice is occasioned by the width and capacity of his throat. The voices of all carnivorous birds and quadrupeds, are likewise observed to be harsh and hideous.

The Great Horned Owls are not migratory; they remain with us during the whole year. The female is, like all birds of prey, considerably larger than the male, but the white on the throat is not as pure, and she has less of the bright ferruginous or tawny color below.

The Rose-Breasted Grossbeak. (*Coccoborus ludovicianus.*)

Fig. 2, the Male. Fig. 3, the Female.

This elegant species of the Parrot Finches (Pityli) is found most abundant in the New England States, especially Massachusetts, but with the exception of the extreme western parts and coast of Georgia and the Carolinas, they are met with, at certain seasons, in almost every part of the United States. His wanderings extend as far up, asNew Brunswick, Nova Scotia, and Newfoundland, where he has been observed to breed. He leaves early in the fall to take up his abode in warmer regions and as soon as spring sets in, commences his wanderings eastward again. He is seen in Kentucky as early as the 16th of March, on his eastern travel. His flight is steady, and at a considerable height. At times he will lower himself and take a rest in the top branches of a high tree. Before taking a new start he will utter a few very clear and sweet notes. You may hear the same, at times, during his flight, but not when he is resting. At about sundown he chooses one of the highest trees to sit upon, in a stiff and upright position, and after a few minutes repose retreats into a thicket to spend the night.

His food consists of grass and other seeds, buds of trees, tender blossoms, and berries, especially those of the Sour Gum, on which he eagerly feeds; he also subsists partly on insects, which he often catches on the wing, as most of the Finches do.

In the third year he arrives at his full plumage. The younger birds have the plumage of the back variegated with light brown, white, and black, a line of which extends over the eye. The rose-color reaches to the back of the bill, where it is speckled with black and white. Our plate shows the full-plumaged female, who, therefore, differs considerably from the male.

The Rose-Breasted Grossbeak is, in common opinion, one of the sweetest singers of this continent. His song is rich and melodious, and he sings at night as well as in day-time. His notes are clear, full, and very loud, suddenly changing, at times, to a plaintive and melancholy, but exceedingly sweet, cadence. One loves to observe him on such occasions, and can not help thinking that he must himself be fully aware of his good singing talent, from his gestures and the positions he takes while pouring forth the sweet notes from the depth of his breast. In captivity he sings frequently and just as well, though not so loud.

His nest is found from the latter part of May to the beginning of July. It is fixed on the upper forks of bushes, on apple trees, or even higher trees, mostly in the neighborhood of water. It is composed of thin branches, intermixed with dry leaves and the bark of the wild grape, lined inside with dry roots and horse-hair. The female lays four eggs of a bluish white color, sprinkled with oblong specks of a brownish purple, especially at the larger end. They are hatched alternately by both male and female. The young are fed with insects exclusively, as long as they are little; then as they grow, with seeds also, which were previously soaked in the crops of the parents.

The American Red Start. (*Setophaga ruticilla.*)

Fig. 4.

This little bird has been classed by several of our best ornithologists among the Sylvicolinæ (Warblers). We will not, therefore, venture to remove him, though we would rather have him placed among the Muscicapidæ (Fly-catchers), as there is hardly any other in the whole tribe that has the characteristic marks of the genus Muscicapa more distinct than he. The formation of his bill, the forward-pointing bristles, and especially his manners, stamp him a Fly-catcher. He is in almost perpetual motion, and will pursue a retreating party of flies from the top of the tallest tree to the ground in an almost perpendicular but zigzag line, while the clicking of his bill is distinctly heard. He certainly secures a dozen or more of them in one descent, lasting not over three or four seconds, then alights on an adjoining branch, traverses it lengthwise for a few moments, and suddenly shoots off in a quite unexpected direction after fresh game, which he can discover at a great distance.

His notes or twitter hardly deserve the name of song. They resemble somewhat the words, Weese! Weese! Weese! often repeated as he skips along the branches; at other times this twitter varies to several other chants, which may easily be recognized in the woods, but are almost impossible to be expressed by words. In the interior of the forest, on the borders of swamps and meadows, in deep glens covered with wood, wherever flying insects abound, this little bird is sure to be found. He makes his appearance in Ohio in the latter part of April, and leaves again for the South at the beginning of September. Generally speaking, he is met with all over the United States, and winters chiefly in the West Indian islands.

The name Red Start is evidently derived from the Dutch "Roth Start" (Red Tail), and was given to him by the first settlers, from his supposed resemblance to the European bird of this name, the Motacilla Phœnicurus; but he is decidedly of a different genus, and differs not only in size, but in manners and the colors of the plumage.

The Red Start builds his nest frequently in low bushes, in the fork of a small sapling, or on the drooping branches of the elm, a few feet above the ground. The exterior consists of flax, or other fibrous material, wound together and moistened with his saliva, interspersed here and there with pieces of lichen; inside it is lined with very fine soft substances. The female lays five white eggs, sprinkled with gray and little blackish specks. The male is extremely anxious about them, and, on a person's approach will flirt within a few feet about the nest, seemingly in great distress. The female differs from the male, in having no black on the head and back. Her head is of a cinerous color, inclining to olive. The white below is not as pure. The lateral feathers of the tail and breast are of a greenish yellow; those of the middle tail, of a dark brown. That beautiful aurora color on the male is, on her, very dull. The young males of the first season look almost exactly like the females, and it is not until the third season that they receive their complete colors. Males of the second season are often heard in the woods crying the same notes as the full-plumaged males, which has given occasion to some people to assert that the females of this bird sing as well as the males.

The Black-Throated Blue Warbler. (*Dendroica canadensis.*)

Fig. 5.

This bird is one of those transient visitors that, at about the end of April or the first week of May, pass through Ohio, on their route to the north to breed. He reminds one, in his manners of the Fly-catcher, but the formation of his bill as well as his general appearance, places him unmistakably among the Warblers.

But little can be remarked here concerning this bird, as it is only to be met with now and then in spring, and during a sojourn of nearly eight years in Ohio, the writer has seen it only twice in the fall; but as the woods are then still thick with leaves, and the bird perfectly silent, it is more difficult to get sight of him, and he probably makes a shorter stay than in spring. Although no pains were spared to find his nest, here as well as in more northern districts, still the search has not been successful. During summer not one single individual of this species has been observed.

Our plate shows the male. The female has a kind of a dusky ash on the breast, and some specimens which had been shot were nearly white.

The Black and White Creeper. (*Mniotilla varia.*)

Fig. 6.

This is also one of the little birds which ought to be respected by farmers and husbandmen generally, on account of his extreme usefulness. He clears their fruit and forest trees of myriads of destructive insects, particularly ants, although he does not serenade them with his songs. He seldom perches on the small twigs, but circumambulates the trunk and larger branches, in quest of ants and other insects, with admirable dexterity. He is evidently nearer related to the Creepers than to the Warblers, for his hind claw is the largest, and his manners, as well as his tongue, which is long, fine-pointed, and horny at the extremity, characterize him strongly as a true Creeper. He arrives in Missouri, toward the latter part of April, and begins soon afterward to build his nest. One which we had the good luck to discover was fixed in the crack of the trunk of a large tree, and was composed of some fibers and dry leaves, lined with hair and a soft cotton-like down. It contained five young ones recently hatched. This was on the 28th of April. At about the beginning of October, the whole tribe leave again for warmer climates, probably the West Indies, though we have been informed that at least several of them have been perceived in the Gulf States during the whole winter.

The male and female are nearly alike in colors.

The Yellow-Throated Warbler. (*Dendroica superciliosa.*)

Fig. 7.

The habits and manners of this splendid little bird are not consistent with the shape and construction of his bill, his ways being those of the Creepers or the Titmouse, while the peculiarities of his bill rank him with the Warblers. His notes, which are loud and spirited, resemble strongly those of the Indigo Blue Bird (Cyanospiza Cyanea). He utters them every three or four minutes, while creeping around the branches or among the twigs in the manner of the Titmouse. On flying to another tree, he frequently alights on the trunk and creeps nimbly up and down or spirally around it, in search of food, like a Creeper. He leaves the North for a short time only in winter, and can not, therefore, migrate very far South. They have been seen in the North as late as the middle of November, and as early again in the spring as the 12th of March. In the State of Connecticut, on the banks of the Connecticut river, great numbers of them have been observed as late in the fall as the 10th of October. They are rarely met with there in the spring, but why, we are unable to state. They seem to be rather partial to running waters, in the vicinity of which they are invariably found; sometimes on trees, sometimes hanging on fences, head downward, like the Titmouse, or searching among the dry leaves on the ground.

The bird on our plate is the perfect male. As to the female, her wings are of a dingy brown, and her colors in general, particularly the yellow on the breast, much duller. The young birds of the first season are without the yellow.

PLATE VI.

The Wandering Falcon, or Great-Footed Hawk. (*Falco peregrinus.*)

The Wandering Falcon, Mountain Falcon, Rock Falcon, Duck Hawk, or Great-footed Hawk, justly deserves his names. He roams almost all over the world. His home extends from the northeast of Asia to western Europe, and the question is yet to be solved whether our American bird is a different species or not. It is evident he is not; for the size, as well as the general characteristic traits of both the American and the one described by European writers, agree almost to minuteness. Some of the European ornithologists differ somewhat in the description of his coloring; but these discrepancies seem to have been occasioned by specimens of different ages, more than by any other cause. He is also found in the interior of Africa, and, according to Jerdon, in India. This excellent observer says: "The Wandering Falcon is found throughout India, from the Himalaya to Cape Comorin, but only during the cold season; especially plentiful near the sea-coasts, or on the shores of large rivers. He does not breed there, as far as I can ascertain, but is only a winter visitor, who appears in October and leaves again in April." In America he extends his wanderings far to the South; whether they reach to South America has not been ascertained, but it is certain that he flies across the Gulf of Mexico. To his immense faculty of flying, a distance of a few hundred miles is mere fun. He inhabits large forests, especially those interspersed with high steep rocks, but is occasionally found close to habitations, and even large cities. The one that served for our drawing was, for instance, shot in the neighborhood of Columbus, Ohio, on the Scioto river, in the month of September. He is a powerful, daring, and extremely agile bird, and experience shows that he knows, too, how to make use of his natural gifts. His flight is extremely swift, mostly close to the ground, in spring only rising to heights immeasurable and almost out of sight. He seldom is sailing but rapidly flapping his long wings. Before rising, he flies a short distance low above the ground and with expanded tail. He is very shy and cautious, choosing the densest pine forests to pass the night, and if such be too far to be reached, prefers sitting on a piece of rock in an open field. His voice is strong and penetrating, sounding somewhat like Kajak! Kajak!

The Wandering Falcon attacks birds only, from a Wild Goose down to a Meadow Lark. Among Pigeons, Quails, and Grouse he makes the greatest havoc, but is especially fond of Ducks, which he pursues with untiring tenacity. Water-fowls, when approached by a gunner, usually take to the wing; not so if our Falcon is visible. Then they make all speed to the water and dive, and those only which are on land or in shallow water fly off, till they reach deep water, then suddenly drop and dive also; but this caution on their part is of no avail, for the Hawk will hover above the water till they are exhausted, then strike down upon them and pick them up.

All birds seem to know him, for not one attacks him, not even the otherwise courageous Crows. All are anxious to save themselves as soon as he is in sight. He usually strangles his prey in the air, before it can even reach the ground. Larger birds, such as the Wild Goose, which he has seized, are tormented by him in the air until they drop down with him, and then are killed. By throwing himself with full force upon his victim, the latter is stunned by the concussion, and drops. This is probably the reason he never attacks a bird that is sitting on the ground, as he would run the risk of killing himself by the concussion. Small birds he carries away to a convenient place; larger ones he eats on the spot where they dropped, plucking off some of their feathers before he begins. Small birds he devours, together with the intestines, which he rejects in the bigger ones. In his attacks he very seldom fails, and they seem to be but play to him.

His nest is chiefly built in cracks of steep rocks, difficult, if not

impossible, to ascend; sometimes also in high trees. It is carelessly constructed of thicker or thinner branches and fibers. The eggs, three or four in number, are laid at the beginning of June, and are of a reddish yellow color, sprinkled with brown, more thickly so at the larger end, and the female hatches alone. The young ones are fed at first with half-digested food from the crops of the parents, afterward with different kinds of birds. When they are able to fly they are instructed by the parents in the art of hunting.

It is a well-known fact that all true Falcons, when attacked, drop their booty and leave it to the attacking party, and the beggars among the birds of prey, being aware of this, profit by it. There they sit, those stupid, lazy fellows, watching the Hawk till he has struck down a bird, when suddenly they assault him. Our hero, otherwise afraid of no bird, drops his prey at their approach, and with an indignant Kajak! Kajak! up and off he goes.

The bird of which the Hawk has taken hold in our Plate is—

The Pin-tail Duck. (*Anas—Dafila acuta.*)

The Pin-tail is a common and well-known Duck, much esteemed for its excellent flesh, which is generally in good order. It is a shy and cautious bird, feeding in mud flats and shallow fresh-water marshes, but is rarely seen on the sea-coast. It has a kind of clattering note, is very noisy and vigilant, and usually gives the alarm at the approach of the gunner.

Some of the Duck tribe, when alarmed, disperse in all directions, but the Pin-tails cluster confusedly, giving the expert gunner a capital chance to rack them with advantage. They do not dive except when winged.

They inhabit the whole northern part of this continent, as well as the corresponding latitudes of Asia and Europe. Great flocks of them are sometimes observed on the rivers near the coasts of England and France.

Our plate shows the male. The female has the crown of a dark brown color; the neck of a dull brownish white, thickly speckled with dark brown; breast and belly of a pale brownish white, interspersed with white; back and root of the neck above black, each feather elegantly waved with broad lines of brownish white. These wavings become rufous on the scapulars, vent white, spotted with dark brown; tail dark brown, spotted with white, the two middle feathers only half an inch longer and more slender than the rest.

The other two birds on the Plate are the male and the female

Blue-winged Teal. (*Anas—Querquedula discors.*)

The Blue-winged Teals are the first that return to the Central States from their breeding-place in the North. They arrive as early as the middle of September, and usually sit on the mud, close to the border of the water, generally crowded together, so that gunners often kill a great number at one shot. Their flight is very rapid; when they alight they drop suddenly among the reeds or on the mud, in the manner of the Snipe or Woodcock. They live chiefly on vegetable food and are especially fond of the seeds of reeds or wild oats. Feeding on such they become extremely fat in a short time. Their flesh is excellent for the table. The first smart frosts drive them to the South, for they are delicate birds and very susceptible to cold. They abound in the inundated rice-fields of the Southern States, where they are caught in vast numbers in hollow traps, commonly called "figure four," and placed here and there on dry spots rising out of the water, and strewn with rice. In April they pass through the Central States again, northward bound, making only a short stay.

PLATE VII.

The Green Heron. (*Ardea—Butorides virescens.*)

Fig. 1.

Public opinion shows but little liberality toward this bird, having stigmatized him with a vulgar and indelicate nickname, and treating him as perfectly worthless and with contempt. This is injustice; he keeps himself as clean as any other of the whole Heron tribe, lives in exactly the same way as they do, and at the same places with them, but he is most numerous where cultivation is least known or cared for.

He makes his first appearance in the Central States early in April, as soon as the marshes and swamps are completely thawed. There, among the ditches and amidst the bogs and quagmires, he hunts with great cunning and dexterity. Frogs and small fishes are his principal game, but on account of their caution and facility of escape their capturing requires all his address and quickness. With his head drawn in, he stands on the lookout, silent and motionless, like a statue, yet ready for an attack. The moment a frog or minnow comes within his range, with one stroke, quick and sure as that of a rattlesnake, it is seized and swallowed in a wink. He also hunts for the larvæ of several insects, especially those of the dragon-fly, which lurk in the mud.

When alarmed, he rises with a hollow guttural scream, but does not fly far, and usually alights on a fence or an old stump and looks out with extended neck, but now and then with his head drawn in so that it seems to rest on his breast. When standing and gazing on you this way, he is often jetting his tail. Sometimes he flies high, with doubled neck and his legs extended behind, flapping his wings bravely, and traveling with great expedition. He is perhaps the most numerous and the least shy of all our Herons, and is found in the interior as well as in the salt marshes.

At the latter part of April he begins to build, sometimes in single pairs in swampy woods, often in company with others, not unfrequently with the Night Heron. The nest, which is fixed on the limb of a tree, consists wholly of small sticks lined with finer twigs loosely put together, and is of considerable size. The female lays three or four eggs, of an oblong form and a pale blue color. The young do not leave the nest until perfectly able to fly.

The Cat Bird. (*Mimus carolinensis.*)

Fig. 2.

This is a very common and very numerous species in this part of the Continent, well known to everybody. In spring or summer, when approaching thickets of brambles, the first salutation you receive is from the Cat Bird. One unacquainted with his notes would conclude that some vagrant kitten had got bewildered among the briers and was in want of assistance, so exactly alike is the call of this bird to the cry of that animal. Of all our summer visitors he is the least apprehensive of man. Very often he builds his nest in the bushes close to your door, and seldom allows you to pass without paying you his respects in his usual way. By this familiarity he is entitled at least to a share of hospitality, but is often treated with cruelty instead. It is true he steals some of the best and earliest of the farmers' strawberries and cherries, but he lives mostly on insects, of which he destroys incredible numbers. Besides, he is one of our most interesting singers. He usually sings early in the morning before sunrise, hovering from bush to bush, hardly distinguishable in the dark. His notes are, however, more remarkable for their singularity than for melody. He chiefly imitates the song of other birds, frequently with perfect success. Sometimes he seems to be at a loss where to begin, and pours out all the odd and quaint passages he has been able to collect. In un-

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settled parts of the country he is rarely or never found, but seems to prefer the company of men. His nest is built in briers or blackberry bushes, and is composed of thin branches and roots, stuck together with mud, lined inside with hair and finer fibers. The female lays five eggs, of a bluish tint. He leaves in September to winter in warmer latitudes.

The Maryland Yellow Throat. (*Geothlypis trichas.*)

Fig. 3, Male. Fig. 4, Female.

This neat little bird inhabits chiefly such briers, brambles, and bushes as grow luxuriantly in low, watery places, his business and ambition seldom leading him higher than to the tops of the underwood, and he might properly be denominated "Humility." Insects and their larvæ are his principal food. He dives into the thicket, rambles among the roots, searching around the stems, examining both sides of the leaves, raising himself on his legs to peep into every crevice, and amuses himself with a simple, but not at all disagreeable twitter, "whit-ti-tee! whit-ti-tee!" which he repeats in quick succession, pausing, now and then, for half a minute. He inhabits the States from Maine to Florida, and westward to the Mississippi. He is by no means shy, but unsuspicious and deliberate. He often visits the fields of growing rye, wheat, or barley, and is of much service to the farmer by ridding the stalks of vermin that might destroy his fields. He lives in obscurity and peace, and seldom comes near the farmhouse or the city.

He builds his nest about the middle of May, in the midst of a thicket of briers, among the dry leaves on the ground. Sometimes it is arched over, and but a small hole left for entrance. It consists of dry leaves and fine grass, lined with coarse hair, etc. The female lays five eggs, semi-transparent, marked with specks of brown and reddish brown. The young leave the nest in the latter part of June, and a second brood is sometimes raised in the same season. They return to the South early in September.

PLATE VIII.

The Wood Duck, or Summer Duck. (*Aix sponsa.*)

Fig. 1, Male. Fig. 2, Female.

This is the finest of all our Ducks, and the beauty of its dress is in perfect harmony with its gentle manners. A characteristic trait is the moving of its tail from one side to the other, which sometimes looks almost like wagging. It swims with as much ease and grace, and seemingly with as little effort, as it flies among the branches and trunks of trees. The cry of the female is a long-stretched "Pi-ai-wee-wee-wee!" and the warning sound of the male a not less melodious "O-eek! O-eek!" It seems to shun the neighborhood of men less than any other Wild Duck, and is by no means in a hurry to leave its breeding-place, even if buildings are in construction close by. Easier than the rest of the tribe, the Wood Ducks get reconciled to, and regularly breed in, captivity, if a suitable chance is offered them.

They live mostly on grain, several aquatic plants, chestnuts, acorns, beech-mast, etc., also on worms, snails, and other insects, which they pick up among the dry leaves or catch in the air. Their full beauty and loveliness shows itself best shortly before and during mating time. Toward March the flock separates, and every single pair now looks out for a convenient breeding-place. To this end the male roams about the woods, alights on a high tree in which he expects to find a hole for a nest, walks easily on its limbs, inspecting every hole he can find, and is often perfectly satisfied with a hole made by the fox squirrel, or even a cleft in a rock. The female squeezes herself with astonishing ease through the entrance, which often seems to be a great deal too narrow for her. The male keeps watch outside during inspection by the female, encouraging her by his tender chatterings, or warning her of supposed danger by his timely "O-eek! O-eek!" after which both quickly take to flight. If they have once built a nest they return to it every year.

The male, although very peaceful, is very courageous when his jealousy is aroused. Any other male coming near him is always kept at a proper distance by unmistakable signs and motions. The female begins to lay in the first days of May. The eggs, seven to twelve in number, are small, oblong, and perfectly white. The hatching-time lasts, as with most of the Duck tribe, twenty-seven or twenty-eight days. When the last egg is laid, the female lines the nest with the soft down of her breast, and covers the eggs with the same when she flies out. While she takes all the parental cares to herself, the male repairs to a suitable watery place to pass through his moulting time, which begins in July, and is ended in the first part of September, giving him a dress distinguished from that of the female only by the white marking of his throat and the greater brilliancy of his plumage.

The nest of the Wood Duck is sometimes at a considerable distance from any water, and quite high from the ground. From the entrance to the nest itself, it is sometimes over six feet. As soon as the young ones are all hatched, the female carries them, one by one, in her bill, to the water, leaving them to the care of the male, till she has brought the last one, when she herself takes care of them again. If the tree on which the nest is, happens to overhang the water, she merely tumbles them out of the nest. Wood Ducks generally live together in small flocks of from six to twelve—occasionally they are seen in flocks of more than a hundred; this occurs chiefly in the fall. Toward October the young ones begin to moult; at the same time the male parent, who reappears now in his bridal dress, joins them again. The flesh of the Wood Duck is very tender and in good esteem.

The Short-tailed Tern. (*Hydrochelidon plumbea.*)

Fig. 3.

This bird is often observed in fresh-water marshes, in flocks numbering from four to ten; it is seldom seen in salt-water marshes. Its flight is very graceful. Its food consists of grasshoppers and insects generally, which it picks up, while on the wing, from grasses or rushes, as well as from the surface of the water. It frequently associates with

The Black Tern. (*Hydrochelidon nigra.*)

Fig. 4.

The Black Tern is a little less in size than the preceding, which it resembles in every respect. They are found on fresh-water marshes, mill-ponds, etc., and are most numerous on the marshes of the Mississippi and its tributaries. Their nests are very artlessly constructed, in large tussocks of rank grass, and contain each four eggs of a greenish buff color, spotted with amber and black, chiefly at the larger end. The young ones of the first season (Fig. 5) have the head white, and the neck and breast irregularly spotted with black and white.

It was found, on dissecting these birds, that they feed exclusively on insects, their stomachs never containing any small fish.

Mr. Audubon, in his valuable work on "Birds of North America," writes as follows of this bird:

"The Black Tern begins to arrive from the Mexican territories over the waters of the Western country about the middle of April, and continues to pass for about a month. At that season I have observed it ascending the Mississippi from New Orleans to the head waters of the Ohio, then culling over the land, and arriving at the Great Lakes, beyond which many proceed still farther

northward. But I have rarely met with them along our Atlantic shores until autumn, when the young, which, like those of all other Terns with which I am acquainted, mostly keep by themselves until spring, make their appearance there. Nor did I see a single individual when on my way to Labrador, or during my visit to that country. Often have I watched their graceful, light, and rapid flight, as they advanced and passed over in groups of twenty, thirty, or more, during the month of May, when nature, opening her stores anew, benignly smiled upon the favored land."

PLATE IX.

The Woodcock. (*Philohela minor.*)

This bird, so universally known to our sportsman, is represented at the bottom of the plate. It arrives in the Central States in March, and if the weather is mild, even earlier, and stays till the first frosts forbode the approach of winter. It is sometimes found here in December, and it may be that in mild winters, some of these birds remain until spring. During the day the Woodcocks keep to the woods, or wooded swamps and thickets; toward evening they usually fly out to the broad open glades, which lead through the woods, or to meadows and swampy places in the neighborhood. A carefully hidden observer can see the Woodcock pushing his long bill under the decayed leaves and turning them over, or boring one hole close to another in the damp soft ground, as deep as his soft, flexible bill will permit, to get at the larvæ, bugs, or worms hidden beneath. In a similar manner he examines the fresh cow-dung, which is soon populated by a multitude of larvæ of insects. He never tarries long at any place. Larvæ of all kinds of insects and naked snails, especially angle-worms, form his principal food.

If in hot seasons his favorite resorts in watery recesses inland are generally dried up, he descends to the marshy shores of our large rivers.

The female Woodcock usually begins to lay in April; the nest is built in a quiet, retired part of the wood, frequently at the roots of an old stump; it is constructed of a few withered leaves and stalks of grass put together with but little art. The eggs are four or five in number, about an inch and a half long, and about an inch in diameter, tapering suddenly at the small end; they are of a dun clay color, thickly marked with brown spots—particularly at the large end the spots are interspersed with others of a very pale purple. The young Woodcocks, when six to ten days old, are covered with down of a brownish white color, and are marked from the bill along the crown to the hind head with a broad stripe of deep brown; another line of the same color curves under the eyes and runs to the hind head; another stripe reaches from the back to the rudiments of the tail, and still another extends along the sides under the wings. The throat and breast are considerably tinged with rufous, and the quills at this age are just bursting from their light blue sheaths, and appear marbled as on the old birds. When taken they utter a long, clear, but very feeble "peep," not louder than that of a mouse. They are, on the whole, far inferior to young Partridges in running and skulking.

The Woodcock is a nocturnal bird, seldom stirring about before sunset, but at that time, as well as in early morning, especially in spring, he rises by a kind of spiral course to great heights, uttering now and then a sudden "quack;" having gained his utmost height he hovers around in a wild irregular manner, producing a sort of murmuring sound, and descends with rapidity in the same way he arose.

The large head of the Woodcock is of a very singular conformation, somewhat triangular, and the eyes set at a great distance from the bill, and high up in the head; by this means he has a great range of vision. His flight is slow; when flushed at any time he rises to the height of the bushes or the underwood, and usually drops down again at a short distance, running off a few yards as soon as he touches the ground.

The Wood Thrush. (*Turdus mustelinus.*)

Fig. 1, Male. Fig. 2, Female.

The Wood Thrush is one of our best and sweetest singers. Audubon writes of him as follows:

"The song of the Wood Thrush, although composed of but few notes, is so powerful, distinct, clear, and mellow, that it is impossible for any person to hear it without being struck by the effect which it produces on the mind. I do not know to what instrumental sounds I can compare these notes, for I really know none so melodious and harmonical. They gradually rise in strength, and then fall in gentle cadences, becoming at length so low as to be scarcely audible, like the emotions of the lover who, at one moment exults in the hope of possessing the object of his affections, and the next pauses in suspense, doubtful of the result of all his efforts to please.

"Several of these birds seem to challenge each other from different portions of the forest, particularly toward evening, and at that time nearly all the other songsters being about to retire to rest, the notes of the Wood Thrush are doubly pleasing. One would think that each individual is anxious to excel his distant rival, and I have frequently thought that on such occasions their music is more than ordinarily effective, as it then exhibits a degree of skillful modulation quite beyond my power to describe. These concerts are continued for some time after sunset, and take place in the month of June, when the females are sitting."

The Wood Thrush inhabits almost the whole continent of North America, from Hudson's Bay to the Gulf. The very next morning after his arrival he will mount to the top of some small tree and announce himself by his sweet song, which, although not containing a great variety of notes, is exceedingly mellow and melodious, poured forth in a kind of ecstacy, and becoming more charming at every repetition, especially if several of them are heard at the same time, in different parts of the wood, each trying to outdo the other. He is always in good humor, and his voice is often heard on rainy days, from morning to nightfall. His favorite retreats are thickly shaded hollows, through which meander small creeks or rills, overhung with alder bushes and wild grapes. It is in such places, or near them, that he builds his nest, a little above the ground. It is constructed outwardly of withered leaves to prevent dampness; on these are layers of knotty stalks of withered grass mixed with mud and smoothly formed; the inside lining consists of fine dry roots of plants. The female lays four, sometimes five, light blue eggs. The Wood Thrush is a shy and unobtrusive bird, appearing either single or in pairs, and feeding on different kinds of berries, as well as on beetles or caterpillars.

On his migration to the South he never appears in the open plains, but hops and flies swiftly through the woods. Occasionally he takes a rest on a low branch, uttering a low chuckling sound, and jerking his tail up and down at each note; then for a few moments he keeps perfectly still, with the feathers of his neck and back a little raised.

The Yellow-bellied Woodpecker. (*Sphyrapicus varius.*)

Fig. 3, Male. Fig. 4, Female.

This is one of our resident birds, and is often to be met with in the thickets of the woods in midwinter. It is generally considered a handsome bird, and in its manners and mode of living resembles the small spotted Woodpeckers.

He is frequently seen in their company, especially in the fall,

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when visiting the orchards. Its nest is usually in a dry old tree, or in a large fallen branch, the entrance to which is small for the size of the bird, and passing down in a slanting direction it expands toward the place where the eggs lay, which are from three to four in number and of a pure white color. Nests containing eggs are invariably to be found from about the middle of May to the first of June. This bird is met with almost everywhere, but not in great numbers, from Hudson's Bay to the Gulf of Mexico. Its food, like that of all the Woodpeckers, consists chiefly of insects and their larvæ, and to some extent of berries.

The Scarlet Tanager. (*Pyranga rubra.*)

Fig. 5.

This beautiful bird is an ornament to our woods. It is almost destitute of song, being endowed with a few notes only, which resemble those of the Baltimore Oreole. It may be found in all parts of the United States, even as far up north as Canada. It rarely visits the habitations of man, but frequently orchards, where it sometimes settles down on an apple or pear tree. Its nest, which it builds in the middle of May, on a horizontal branch, consists of stalks of broken flax and other dry fibrous matter loosely woven together. The eggs, three or four in number, are of a dull bluish color, spotted with brownish purple.

It seems not to be very shy, but allows you to approach it very near, and is frequently sitting right above your head while you are looking for it in the distance, misled by its notes, "chip, cheer," which seem to come from a great distance.

The female is green above and yellow below; the wings and tail brownish black, edged with green. The male has a spring and a summer dress. Our plate shows him in the spring dress. This changes, soon after the young are hatched, into one similar to that of the female—green above and yellow below; and in the time between this and his bridal dress, he is often speckled with red, which is produced by the red points of the feathers: for, with the exception of the points, these feathers are of a bluish and sometimes a yellowish white; but they lie so regularly on the living bird that the white parts are invisible.

PLATE X.

The Snow Owl. (*Nyctea nivea.*)

Fig. 1.

The Snow Owl, the largest of all the so-called Day Owls, inhabits all parts of the North. However near men have approached to the pole, they have seen this Owl, not only on the land, but they have observed him likewise sitting on icebergs, or flying close over the water with powerful flapping of the wings. It is, therefore, probable that they inhabit not only the whole of North America, but also the corresponding latitudes of Europe and Asia.

In extremely cold winters they regularly wander southward, and are by no means scarce in Illinois. Several of them were shot near Chicago, in the winter of 1871–72. Our drawing was prepared from a beautiful female specimen.

A gentlemen from Cuba assures us that he has frequently seen this Owl there.

Some ornithologists of Europe hold that the color and markings of this species are different at different ages, and that some are like the one on our plate, while others are almost or perfectly white. It may be so; but on dissection the white ones have been invariably found to be males and the others to be females. The white Owls are the smaller.

During the summer they generally keep in the mountainous part of the North; in winter they take up their abode in the plains. In his manners, the Snow Owl has many peculiarities. In his quiet sitting position, his resembles all other large Owls; but his movements are quicker and more graceful, his flight being like that of the slow-flying birds of prey. In boldness and tenacity he surpasses all the rest of the Owl tribe. His food consists chiefly of small quadrupeds, such as the muskrat; partly also of fish, which he catches with great skill, in nearly the same manner as the Fish-hawk, sitting on a projecting rock and watching for them, until they come to the surface of the water. In winter he prefers the evening or the night to day-time for hunting. His cry is a rough, harsh "craw! craw!"

The eggs are laid in the month of June. Their number varies from five to ten—a remarkable number for a large bird of prey like the Snow Owl; they are oblong and of a dirty white color. The nest consists of a small cavity in the ground, lined with withered grass and a few feathers from the mother bird. Both parents are much attached to the young, and on the approach of man, the female flies off a short distance from the nest, and, feigning lameness, remains with spread wings, lying on the ground, in order to coax the enemy away from the nest. It has been tried many times to keep Snow Owls in cages; but they invariably died in a short time without any apparent cause.

The Snow Bunting. (*Plectrophanes nivalis.*)

Fig. 2.

The Snow Bunting inhabits, like the Snow Owl, the northern regions not only of this continent, but also of Europe and Asia. His home is in the mountains, where he builds his nest in crevices of rocks or under stones; the outside of it is composed of dry grass, moss and lichen, the inside of feathers and soft down: the entrance to it is always narrow; the eggs, five or six in number, are so irregularly marked and colored that a description of them is almost impossible. The song of the male is very pleasant but short. The young birds, when fully fledged, remain for a short time in their old home, then form large flocks and begin their regular wanderings. As hardly any other birds fly in as large flocks, at least not in northern regions, their wanderings attract the attention, not only of naturalists, but of almost everybody. In Indiana they appear only in small groups of from sixteen to fifty. They travel also considerable distances over the sea.

In their manners, Snow Buntings resemble Larks. They fly easily, with little flapping of the wings, in long curving lines, generally at considerable heights, and sometimes just above the ground. They are of a lively, frolicksome disposition, and seem to be in good humor even on the coldest winter days. In summer they subsist chiefly on insects; in winter they feed also on several kinds of seeds. It is very amusing to see a flock of them in winter, on the snow-covered fields, on a foraging tour. They hover over the ground, a part of them alighting to pick up what little seed they can find on such withered plants as extend above the snow, the rest flying just over them a little further along, and then alighting also; after a while the first party fly over the others, and in this way they go over the whole field. Their cry on such occasions sounds like "fit;" sometimes it is a shrill "tzirr," uttered during the flight. Our plate represents this bird in its winter dress. The summer dress of the old male is really handsome, notwithstanding its plain colors. The whole middle of the back, the tips of the primaries, and the middle of the tail feathers are black. There is also a black spot on the metacarpus. All the rest of the plumage is snow white.

PLATE XI.

The Yellow-shanked Snipe. (*Gambetta—Scolopax—flavipes.*)

Fig. 1.

The Yellow-shanked Snipes arrive in the Northwestern States between the middle of April and the early part of May, on their way to the North, where they breed; and return as early as the latter part of August, or the beginning of September, making only a short stay. All the birds of this genus seem only to go northward to breed, and to return southward as soon as the young are able to fly. Single ones are to be met with in summer, or at almost any season; but as all of them are male birds, it is to be presumed they are either old bachelors or widowers, who can not bear to see the happiness of those who are mated, and therefore wander off toward the sunny South. There is more dignity in the manners and habits of the Snipes than in those of the Sand-pipers. Their flight is easy, and when they alight they flap their wings, and before laying them together, stretch them straight up, so that the tips touch each other. In case of need they swim and dive tolerably well. Their chief resorts seem to be the sea-coast and salt-marshes, as well as the muddy flats at low water, where they delight to wade in the mud; but it is rather the abundance of food they find there than the mud, that attracts them. They live on insects and all kinds of larvæ. You may sometimes meet with single ones, which show no shyness at all; but when in flocks they shun the gunner carefully and seem to distinguish him from less dangerous persons. It may be on account of these qualities that numbers of different kinds of Sand-pipers are found in their company, and seem to follow them as their leaders with great confidence. As a delicacy for the table, they are held in high esteem.

The Semi-palmated Sand-pipers. (*Tringa—Actitis Semi-palmata.*)

Fig. 2.

The principal places which these neat little birds inhabit, are the sea-shores. Their legs are rather short in proportion to the size of the bird. They live on the same food as the Yellow-shanks. These birds inhabit almost every part of the North American continent. They migrate North in the spring, and should the season be open, remain quite late in autumn, when they depart for their winter-quarters at the South. They congregate in large flocks on the beaches and sand-bars, and meadows, along the sea-coast and on the shores of the interior lakes and streams. When feeding, they scatter about in small parties; when surprised, they run with a rapid movement, collecting in such close bodies that as many as twenty, and sometimes more, are killed at a single shot. When closely pursued, they run off in one mass uttering a chirping note. If this note be imitated, they will shortly obey the call. They breed at the far North, the female laying four or five white eggs, spotted and blotched with black.

On their wanderings southward they sometimes penetrate far inland, following the sandy and muddy banks of rivers. In swimming they constantly move their heads backward and forward like Ducks.

A heavy down under the feathers of the breast makes them appear round and plump. In the fall the male and female are marked exactly alike.

The Great Tern, or Sea Swallow. (*Sterna hirundo.*)

Fig. 3.

The Sea Swallows inhabit the northern parts of the temperate zones. They are found in great numbers on the North American lakes. In their wanderings they fly, at a considerable height, from one sheet of water to another, following, when it is possible, the course of rivers, and occasionally coming down to feed or rest. Their voice sounds like "kraa," and when frightened, like "kick" or "krick." Their food consists of small minnows, young frogs or tadpoles, worms, crickets, etc. They catch their prey when it is in the water by suddenly plunging down upon it; when they find it on the ground, they pick it up while on the wing. They build their nests on low islands, the shores of rivers, or the coast generally, but not on sandy ground. They make small holes, or use such as they happen to find, for their nests, without lining them. The eggs are laid about the last of May, and are of a light yellowish brown color, speckled with purplish, reddish, and dark brown round or oblong spots. The female sits on them during the night, and the male occasionally in the daytime. During the warm sunshine the eggs are left uncovered. The young, which are hatched in about sixteen or seventeen days, soon leave the nest, hiding themselves, in case of danger, among the pebbles, and only betraying their presence by their melancholy piping, when the parents are shot. The upper part of these birds is covered with a grayish white down, and on the lower part the down is white.

They always turn their heads toward water when sitting on the nest. Their flight is extremely graceful.

The young grow rapidly, and when only three weeks old are able to follow their parents.

PLATE XII.

The Baltimore Oriole. (*Oriolus—Icterus Baltimore.*)

Fig. 1, Male. Fig. 2, Female.

The Baltimore Oriole inhabits North America as far as the fifty-fifth degree of latitude. It is chiefly found in the vicinity of rivers, and seems to prefer a hilly country. It is only a summer visitant in the Northern States, where it makes its appearance in pairs, during the latter part of April or the beginning of May. It commences at once to build its nest, the material and construction of which vary according to climate and circumstances. In the Southern States, it consists of "Spanish moss," put together so loosely that the air can pass through it; it is never lined, and is always placed on the north side of a tree. In the Northern and Western States, it is hung on such twigs as are most exposed to the rays of the sun, and lined with the warmest and finest material. The bird, in constructing the nest, ties the material to the twigs with his bill and claws, weaving it strongly together, and giving the whole the shape of a hanging bag, as shown on the plate.

In constructing its nest, he makes use of any material he deems suitable. A lady in Connecticut, while sitting at an open window, engaged in sewing, was called away for a few moments. A Baltimore Oriole, in the meantime, entered the window, and carried off her thread and several yards of small tape to the nest he was then building. The lady suspected the mischievous bird, and, on going to the nest, found him weaving in her tape. This she succeeded in recovering; but the silk thread was so perfectly wound in that it could not be disentangled.

The female lays four and sometimes five or six eggs, of a light gray color and marked with dark spots, dots, and lines. The young are hatched in a fortnight, and in three weeks more are fully fledged. Before they fly out they often hang or climb around the nest like Woodpeckers. They are fed by their parents for a couple of weeks, and then left to take care of themselves. The food of the Baltimore Oriole consists of mulberries, cherries, and similar fruit. In the spring they chiefly subsist on insects, which they pick up on leaves and branches or catch flying. Toward fall they commence their return southward, flying high in the air, and always in the daytime. They generally fly singly with loud cries, and apparently in great haste. At sunset they alight on a suitable

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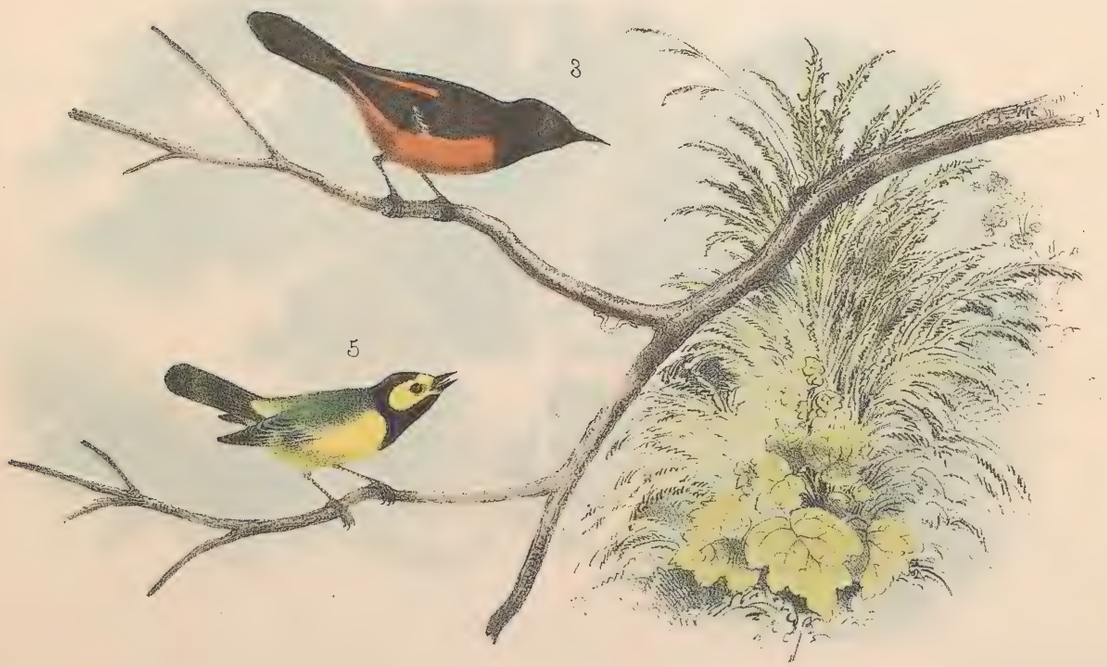
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tree, take a little rest, and, having quickly picked up some food, go to sleep. Next morning after a slight breakfast, the journey is resumed. The movement of these birds is pleasant and easy; their flight straight, and their walk on the ground quiet. They manifest great skill in climbing branches; in this respect almost surpassing the Titmouse.

The Orchard Oriole. (*Oriolus—Icterus Spurius.*)

Fig. 3.

This bird chiefly frequents orchards, whence the name. It is gay and frolicksome, and seems to be always in great haste, hopping among the branches or upon the ground, and flying in the air. Its notes are short but lively, and uttered with such rapidity that it is difficult to follow them distinctly. Sometimes it utters only a single note, which is very agreeable. Its food generally consists of insects and their larvæ. Of the insects that infest fruit trees, they destroy great quantities, and are therefore benefactors to farmers and fruit-growers.

The Orchard Oriole builds his nest similar to that of the Baltimore. For material it uses a long fibrous grass, and generally hangs the nest on the outward branch of an apple tree. The nest is semi-globular in shape, about three inches deep and two wide; the inside is lined with wool or a down from the seeds of the platanas accidentalis, or buttonwood tree. The eggs are commonly four in number, having a pale bluish tint, with a few small specks of brown and dots of purple. The female sits fourteen days; the young remain from two to three weeks in the nest, which they leave about the middle of June. The upper portion of the female is colored with a yellowish olive, inclining to a brownish tint on the back; the wings are dusky brown, and the lesser wing coverts tipped with yellowish white; the tail is rounded, the two exterior feathers three-quarters of an inch shorter than the middle ones; the lower parts of the body are yellow. The plumage of the male nearly corresponds with that of the female.

The Indigo Blue Bird. (*Cyanospiza cyanea.*)

Fig. 4.

This beautiful little bird inhabits, it seems, all parts of the North American continent from Mexico to Nova Scotia, and from the sea-coast west, beyond the Appalachian and Cherokee Mountains. It is chiefly seen in gardens, fields of clover, on the borders of woods, and on roadsides, where it is often observed perched on fences. It is very neat and agile, and a good singer. Mounting to the highest top of a tree it sometimes chants for half an hour at a time. Its song consists of short notes often repeated: the first ones are loud and rapidly succeed each other; then they are gradually dropped until they are hardly audible, the little singer appearing to be quite exhausted; but after a pause of about half a minute, he begins again as fresh, lively, and loud as at first. The song is heard during the months of May, June, July, and August. When frightened it utters a single chirp, sounding almost like two pebbles struck together. The color of its plumage is changeable, depending on the light in which it is seen. Instead of indigo blue, it sometimes appears in a verdigris dress; at other times the dress appears green, and at others blue. Its head is of a deep blue, and its color is not changeable like that of the rest of the body. Its nest is usually built in rank grass, grain, or clover, and is generally suspended between two twigs, one passing on each side; it is composed of flax or other fibrous material, with an inside lining of fine dry grass. The eggs, numbering five, are light blue, with a purplish blotch on the larger end. Insects and a variety of seeds constitute its principal food. The female is of a light flaxen color; her wings are of a dusky black, and the cheeks, breast, and the lower portions of her body are clay-colored, streaked with a darker color under the wings, tinged so as to be bluish in several places. Toward fall, after moulting, the male appears almost in the same colors as the female. The Indigo Blue Bird is frequently kept in cages; and those taken in trap-cages soon become reconciled to their captivity, but never sing so well nor so loud as those reared by hand from the nest. They are fed with different kinds of seeds, such as rape, turnip, hemp, and canary seed.

In Europe they are invariably found in every collection of birds.

The Hooded Fly-catcher. (*Musicapa—Setophaga mitrata.*)

Fig. 5.

This bird is chiefly found in the southern parts of North America, abounding in the Gulf States. It is a lively bird, and has in a good degree the manners of a true Fly-catcher, while in some respects it resembles the Warbler. It is in an almost constant chase after insects, its principal food, uttering now and then a very lively "twee, twee, twitchee." In the Northern States it is rather scarce, and when met with there it is shy and timid, like a stranger far from home.

It spends the winter in Mexico and the West India islands. The nest of the Hooded Fly-catcher is very neatly and compactly built in the fork of a small bush: it is on the outside composed of flax and other fibers, and moss, or pieces of broken hemp; the inside is nicely lined with hair and feathers. The eggs are five in number, grayish white, with reddish spots on the larger end. In the United States it is a bird of passage. The female nearly resembles the male, except that the yellow of her throat and breast has a slight blackish tint; the black does not reach so far down on the upper part of the neck as in the male, and it is also of a less deep color.

PLATE XIII.

Townsend's Cormorant. (*Phalacrocorax townsendii.*)

Fig. 1.

Cormorants are generally found in all parts of both hemispheres; in middle Asia, and, in winter, in great numbers in Africa. They are most numerous in rivers bordered by large forests. Thousands congregate on the Columbia river. The bird from which the drawing is made, was presented to us by Dr. W. T. Shepard, who shot it in the "Reservoir," in Licking county, Ohio. It proved, on dissection, to be a female.

Cormorants are common in winter in all the southern seas—in Greece, in China, and India. Wherever water and fish are to be met with, Cormorants are seen. These birds manifest many peculiarities. They are gregarious, usually congregating in flocks, and sometimes in considerable numbers. They are seldom seen singly or in pairs. Almost all the different kinds of Cormorants are often collected in the same flock.

During the morning hours, Cormorants are busy in fishing. The afternoon is generally devoted to repose. Toward evening another fishing excursion is made, and after this they retire to sleep. For this purpose, they select, in the interior of the country, high trees on islands, or those standing in lakes or rivers. Such trees also serve them for breeding-stations. On the coast or on the ocean, they choose a rocky island, affording a wide range of vision, and also a harbor, from whose every side they can easily take flight and return. Such islands can be seen and recognized from a distance, as they are literally covered with the white excrements of these birds. Ship-loads of guano could be collected on these islands, if it could only be dried by the tropical sun of Peru. Such a sight in mid-ocean never fails to attract the attention of the mariner or the

traveler; but the island is, of course, most attractive when it is occupied by Cormorants. There they sit arranged in rows or lines, on the rocks, in the most picturesque positions, and all facing the sea. Rarely can one be seen sitting apart from the rest. They usually wear a stiff, statue-like appearance; but sometimes each bird is seen to move some part of the body, either the neck, wings, or tail. The object of these movements doubtless is to dry their feathers. After ten or fifteen minutes, they become quiet, merely basking in the sun. On such occasions, each Cormorant seems to have a particular place which he always occupies.

Cormorants walk with extreme difficulty. Some observers have said that these birds can only walk when they support themselves by their tails. This supposition has evidently arisen from the fact that the tail portion of the Cormorant's body is stiff, like that of the Woodpecker. Cormorants, when hanging by their short, round claws at the entrances to crevices or hollows in rocks, support themselves by their tails as Woodpeckers do. The walk of Cormorants is a mere waddling, and yet they make more rapid progress than an observer would at first sight suppose. They are not made for locomotion on land; but in swimming and diving they are experts. When a boat approaches their resting-place, they stretch out their necks, take a few irregular steps, and turn as if for a general flight; but only a few take to flying, bravely flapping their wings for a short time. These maneuvers are followed by a regular sail in the air; while others fly round in circles, rising higher and higher like the Hawk or Kite. The majority, however, do not take to the wing at all, but let themselves down into the water, head foremost, like frogs, diving and rising at a great distance off. Then, looking for a moment at the boat with their green eyes, they dive and rise again, and so keep doing till they reach a place of safety.

There is probably no bird that can surpass the Cormorant in diving and swimming under water. Frequent trials have been made to get ahead of them with a light boat or canoe; but the practiced oarsman, though exerting himself to the utmost, could make only half the distance on the surface that the Cormorants made in the same time under water. They dive to great depths, and remain a long time under water; then coming up to the surface, they hastily draw in a fresh supply of air and dive again. When pursuing their prey in the water, they stretch themselves out and swim with sturdy strokes, pushing themselves through the water with an arrow-like velocity.

It may be reasonably inferred from the penetrating green eyes of Cormorants that their sense of vision is well developed. Their hearing is also acute, and they do not lack the sense of feeling. But they are too voracious to possess much discrimination in the sense of taste. It is true they feed on one kind of fish more than on any other; but this preference is probably not so much due to their taste, as to the fact that such fish are more easily caught than others. The fish alluded to is the so-called alewife, a kind of herring, found in great numbers, swimming near the surface. Cormorants are shy and distrustful. Toward other birds, with whom they come in contact, their behavior is that of tricksters and rascals.

The Chinese train Cormorants for fishing. The young intended for this use are hatched by domesticated hens. The following is the mode of fishing with Cormorants: The fisherman employs a raft from fifteen to twenty feet in length, and from two and a half to three feet in width, made of bamboo, and furnished with an oar and rudder. Arriving on the fishing ground, he drives the Cormorants from the raft into the water, and they all dive at once. As soon as a Cormorant has caught a fish, rising with it to the surface, he swims toward the raft, merely with the intention of swallowing the fish. He is prevented by a brass ring or string around his neck from accomplishing this feat. The fisherman hurries toward the bird, throws a net over him, drags him to the raft, and secures the fish. He then sends the Cormorant back into the water for more booty.

In the interior of a country, Cormorants in a very short time destroy all the fish in the lakes and rivers. Their voracity exceeds comprehension. A single Cormorant devours daily from sixteen to twenty good-sized herring. They catch, it is said, young aquatic birds, Ducks, Coots, Rails, etc. The writer has found in a Cormorant's stomach the remains of a young Gallinula.

Cormorants prefer trees for nest-building, but also make use of hollows in rocks. Their nests are formed of a few dry rushes, fibrous roots, etc. Crows and Herons are often expelled from their nests by Cormorants, who appropriate the nests to their own use. Toward the close of April, the female Cormorant lays three or four bluish green eggs, of an oblong shape, and small in proportion to the size of the bird. The male and female sit alternately on the eggs, and usually hatch them out in about twenty-eight days. They also take turns in feeding the young. These grow rapidly, and are well taken care of by their parents, who, however, do not try to defend them, at least not against man. On arriving at the nest from a fishing excursion, the parent birds empty their crops and stomachs, which sometimes contain several dozen small fishes. Many of these fall over the border of the nest to the ground; but the Cormorants never take the trouble to pick them up. Toward the middle of June the young are able to fly, and the old birds begin raising a second brood. The flesh of Cormorants is not generally considered fit for food; but Laplanders and other northern people pronounce it delicious.

The Double-crested Cormorant. (*Phalacrocorax dilophus.*)

Fig. 2.

This bird is represented on the plate in its summer plumage, having two elongated tufts of feathers behind each eye. It inhabits all parts of this country from Maryland to Labrador, but in no way differs from other Cormorants. The specimen that served for the drawing, was shot in the "Licking Reservoir," heretofore referred to, among a flock of the common Cormorants (*Phalacrocorax Carbo*).

PLATE XIV.

The Great Northern Diver Loon. (*Colymbus glacialis.*)

Fig. 1.

The great Northern Diver, Loon, or Stutter, as this bird is called in northern Europe, is a regular sea-bird, living on the coast, but frequenting large fresh-water lakes and ponds in the interior for the purpose of breeding. These birds, on their migration southward, late in the fall, and on their return northward, in April or May, visit our rivers and mill-ponds. They are very shy, wary, and difficult to kill, eluding the sportsman by their astonishing dexterity in diving and swimming under water, even against the current. They can remain a good while beneath the surface, often six or eight minutes at a time, and swim long distances with incredible rapidity, and without any apparent exertion. They sometimes lie flat on the surface of the water, or sink themselves in it, so that only a small portion of their backs and their heads and necks can be seen. They sometimes swim in a slow, quiet way. Their diving is accomplished without making any noise, or any commotion in the water, by stretching themselves up, bending the neck in a curve forward, and then plunging down. Under water they stretch out to their full length, press wings and feathers close to the body, and, moving their feet only, shoot onward like an arrow through the water. Sometimes they swim in one direction, and then in another; sometimes just beneath the surface, and then at a depth of several fathoms. They swim or race with fish, their usual food, and catch them while swimming. From the very first day of their lives, they swim and dive, and seem to feel safer in water than when flying high in the air.

These birds are quite helpless on the surface of the ground, which they avoid as much as possible. They can not walk as other birds do, or even hardly stand upright. They crawl along instead of walking, supporting themselves by their bills and using their wings to aid a forward movement. Their flight is much better than one would suppose it could be, with their heavy bodies and small wings. To get fairly on the wing, they make a long preliminary movement; but as soon as they have gained a certain height, they speed quickly forward, although compelled to flap their short wings in rapid succession. Loons are distinguished from all other sea-birds by their loud and sonorous voice. Many ornithologists speak of the voice as harsh and disagreeable; but the writer can not avoid confessing to a partiality for the loud morning call of the Loon. Its voice, especially at night, resembles a long drawn out "Aaweek! Aaweek!" So penetrating is it as sometimes to produce an echo in the surrounding rocks or mountains, sounding like the cry of a man in imminent peril of life.

Loons are shy and cautious, trusting no one. Strange creatures they avoid as much as possible, and do not seem to care much even for their own kind. They are often found single, and, during the breeding season, in pairs, greatly attached to each other. It is seldom that two pairs are seen on the same pond, and more rarely still can even a single pair be seen on a pond occupied by other birds. During their migrations, or when in captivity, they always keep at a distance from other birds, and snap at them if they come near. When brought to bay, Loons fiercely defend themselves, inflicting ugly wounds with their strong, sharp bills.

They swallow small fish whole; but, as such as are of the size of the herring cause them trouble, larger ones are torn into small pieces and so devoured. It has been observed that captive Loons never pick up a dead fish; while freshly caught birds, placed in a large reservoir well stocked with fish, commence immediately to dive, chase, and catch and eat the fish. Fishermen on Lake Erie are in the habit of inclosing a small piece of water, three or four feet deep, with a kind of network reaching above the surface, for the purpose of keeping fish for market. Oftentimes, a Loon, attracted by the multitude of fish, alights in one of these inclosures, and is easily caught, as it can not again get on the wing, for want of a place from which to make its launch into the air.

These birds select for their breeding-places quiet fresh-water ponds or lakes, often preferring those situated at a considerable elevation above the level of the sea. During the breeding season, their loud, sonorous voices are oftener heard than at other times. The nests are usually found on small islands, but in case there are no such islands, the birds build nests on the shore near the border of the rushes, constructing them of rushes and rank grass, carelessly put together. No attempt is made at concealment, and the female bird, sitting on the nest, can be seen from a great distance. She lays two eggs of an oblong shape, with a coarse-grained shell, and of an oil green color, sprinkled with dark gray and reddish brown specks and dots. Both the male and female sit alternately on the eggs, and mutually feed and take care of their offspring. The eggs are usually laid in the latter part of May, and the young are to be seen by the end of June. If food is lacking in the pond or lake where the nest is located, one of the parents takes care of the young while the other flies off to some point on a fishing excursion. As soon as the young birds are fledged, they leave the home of their infancy, and follow their parents to the larger lakes or the sea.

The flesh of the Loon is unfit for human food; it is rancid to the taste, and its odor is disgusting. The natives of Greenland use the skins of these birds for clothing, and the Indians about Hudson's Bay adorn their heads with circlets of Loon feathers. Lewis and Clarke's exploring party saw, at the mouth of the Columbia river, robes made of Loon skins. While they wintered at Fort Clatsop, on that river, they observed great numbers of these birds.

The female is smaller than the male Loon. The bill is yellowish, and only the upper ridge and the top black, or of a blackish horn color; the crown, back, and part of the neck and the whole upper parts are pale brown; the plumage of a part of the back and scapulars is tipped with pale ash; the throat, lower side of the neck, and the whole underparts are white, but not so purely white as in the male, as these parts in the female have a dirty yellowish tinge. The quill feathers are dark brown. The female has neither the streaked bands on her neck nor the white spots on her body.

The Tell-tale, Tattler, or Godwit. (*Gambetta Melano leuca.*)

Fig. 2.

This bird is well known to our gunners along the sea-coast and marshes. They stigmatize it with the name of Tell-tale, for its faithful vigilance in alarming the Ducks on the approach of the hunter, with its loud and shrill cry. This cry consists of four notes, uttered in rapid succession, and so loud and shrill as to alarm any Duck within hearing. But gunners, aware of this fact, look out in the first instance, for this bird, and often hush its warning voice forever, before it is aware of their stealthy approach.

This elegantly formed bird appears on our coasts about the beginning of April, breeds in the marshes, and leaves for the South in the middle of November. Not only do these birds build nests in salt-water marshes, but also in fresh-water swamps; sometimes on the dry ground, and even in an old stump. The nest is simply a hollow, made usually in a tussock of rank grass, inlaid with a few dry leaves of grass, a little moss, and with pine needles or leaves. The eggs, four in number, are proportionally large, pear-shaped, and of an oil green color, sprinkled with brownish gray specks and dots. The female bird hatches the eggs; but her mate is always at hand and on the watch. The young run about, following their parents, as soon as they are out of the shell, and conceal themselves, as all their kindred do, on the approach of danger, by lying flat on the ground, or in the grass or weeds. As soon as they are full-fledged, they look out for themselves, but remain with the old birds, flying at will from place to place, making longer and longer excursions, and at length, on some fine evening, setting out for a grand wandering tour.

In their winter-quarters, Tattlers associate with many other birds, but seldom form large flocks. It seems as if the company of strangers suited them better than that of their own kind. Their manner is pleasing; their walk elegant, quick, and striding, and their flight easy and rapid. They wade in deep water, and swim if necessary. They are generally seen, either searching for food or standing on the watch, alternately raising and lowering the head, and, on the least approach of danger, uttering a shrill whistle, their warning cry, and then rising on the wing, generally accompanied by all the shore birds in the vicinity. Occasionally they rise to a great height, and their whistle can be distinctly heard, when the birds are beyond the reach of the eye. They become very fat in the fall, and their flesh is in high esteem for the table.

Nature seems to have intended this bird as a kind of guardian or sentinel for all other shore or aquatic birds. They feed on the shore, or in the bogs or marshes, with a feeling of perfect security, so long as the Tattler is at hand, and is silent; but the moment his whistle is heard, there is a general commotion, and directly not a bird is to be seen, the disappointed gunner, in his vexation, uttering between his teeth something the reverse of a prayer.

PLATE XV.

The Gray or Sea Eagle. (*Haliaëtus leucocephalus.*)

This formidable Eagle lives in the same countries, on the same food, and frequents the same localities as the Bald or White-headed

Eagle, with which it often associates. In fact, the Sea Eagle so much resembles the Bald Eagle, in the form of the bill, in its size, in the shape of the legs and claws, differing from the latter only in color, that it seems at once to be the same bird, distinguished from the Bald Eagles previously observed simply by its age or stage of color. Another circumstance corroborating such an inference, is the variety of the colors of Sea Eagles; scarcely any two of them are found to be colored alike, the plumage of each being more or less shaded with light color or white. On some, the chin, breast, and tail coverts are of a deep brown; on others, these parts are much lighter, sometimes whitish, with the tail evidently changing in color, and merging into white.

In former times some of the best informed ornithologists insisted that Sea Eagles must be of a different kind from Bald Eagles, as, on examination of the nests of each, it was found that both the parent Sea Eagles were different in color from the parent Bald Eagles. But it takes the Bald Eagles full four years to perfect their plumage, though the younger ones begin to breed in the second year. These young ones passing for Sea Eagles, it is supposed that there are a great many more Sea Eagles than Bald or White-headed Eagles.

Almost everybody has heard or read stories of very young children having been seized and carried off by a Bald or Sea Eagle. But it is doubtful whether any of these terror-exciting tales would bear a very close or critical examination. While the writer was stopping at an inn in the Tyrol, the landlord entered the room one afternoon in great haste, and, opening a window, discharged his short rifle at a bird that was flying at too great a distance to be even alarmed. He explained, by saying that he made it a point to kill, or at least to shoot at, every Lammer-geier that came within sight, as one of them had carried off the child of his best friend. The name and residence of that friend having been given, he was visited, and the information imparted by him was, that a child had in reality been carried off by a Lammer-geier—not one of his children, as had been erroneously stated, but the child of an innkeeper residing some fifteen miles distant. On visiting the innkeeper, it was ascertained that the story was wholly without foundation in fact.

The Sea Eagle is a coward. The present writer once climbed to an Eagle's nest on a lofty yellow pine tree, standing near the bank of a small creek, in the northern part of the State of New York. During the progress of the climbing, the old Eagle flew about the tree, screaming and making a hissing sound, but keeping at a respectful distance from the climber. On reaching the nest, it was found to consist of a large pile of sticks, cornstalks, rushes, and some fibrous materials. The different layers showed that it had answered a similar purpose for several successive years. It contained two young Eagles that threw themselves at once upon their backs and showed fight when they saw their visitor looking at them, striking at him with their claws, making a peculiar rattling with their beaks, opening them, and suddenly shutting them with a snap. Not even when their young were lifted out of the nest and examined, did the old Eagles venture to attack the intruder, though they sometimes came toward him in a direct line, with open beaks, with their head feathers all erect, and seemingly in a terrible rage. But when within four or five yards of the object of their fury, they suddenly turned off at a right angle, either to the right or left. After the young Eagles had been examined for a quarter of an hour, they were put back into the nest, and their visitor descended the tree, to the great relief of their afflicted and fussy parents.

PLATE XVI.

The Fish Hawk. (*Pandion haliaetus.*)

The Fish Hawk bears also the name of Osprey, Fish Eagle, and Fish Kite. Up to the present time it has been regarded as belonging among the Eagles, from whom it differs in many respects. Its right position seems to be that of a connecting link between Eagles and Kites.

Fish Hawks are migratory birds, usually arriving on the North American lakes in the latter part of March, sometimes later, and departing during the closing days of September. They live exclusively on fish, and of course their haunts are where their food abounds. They build nests on high trees, constructed of stout sticks, rushes, moss, seaweed, etc. The female lays two, sometimes three, handsome, oblong eggs, of a grayish white color, and speckled all over with light reddish dots.

Their long wings enable Fish Hawks to continue with ease a long time in the air. At the start for an excursion, they soar to a great height, and then letting themselves down gradually, they begin just above the level of the water their inspection for fish. This inspection is not, however, entered upon while there is a mist hanging over the water. They come to the fishing-place by a circuitous route, and ascertain, by cautiously looking about, whether any danger is to be apprehended. Alternately lowering themselves and soaring to a height of fifty or sixty feet, they sometimes poise themselves to take a better aim at a fish seen in the water, and then dart down with legs stretched forward in an oblique direction, disappearing for a short time in the water, and then reappearing on the surface, flapping their wings and shaking the water from their feathers. If unlucky, away they fly, to return and try their fortune again. Whether lucky or not, they usually leave the smaller ponds after their first endeavor. Their peculiar mode of fishing necessitates the making of many a plunge to no purpose; but this does not at all discourage them: their motto always is, "Try again." They seldom suffer want, except when, on their arrival at the North, they find the lakes and ponds still covered with ice.

When a Fish Hawk pounces upon a fish, he drives his claws with such force into its back that they are not easily or very quickly withdrawn. Very often, miscalculating the size and weight of the fish, he endangers his own life, and sometimes loses it altogether, by being drawn under the water by a heavy fish, and drowned. On fish caught by this bird, there have been observed two holes on each side of the back. This is explained by the fact that the Fish Hawk can turn the outer toe either forward or backward, and that in seizing a fish, he turns this toe backward so as to get a firmer hold. He flies off to the woods with such fish as he can conveniently carry, to feast upon them there at leisure and in safety, but heavier fish he drags to the shore.

Fish Hawks are never known to attack quadrupeds or birds for the purpose of obtaining food. All aquatic birds are so well acquainted with the Fish Hawk that they are never alarmed at his approach. Grackles very often build their nests in the interstices between the sticks in the Fish Hawks' nests, and both kinds of birds live together in harmony. But other birds of prey, as the White or Bald Eagles, or Sea Eagles, torment the Fish Hawk. As soon as a Bald Eagle sees the Hawk with a fish, he chases, attacks, and compels the Fish Hawk to drop his hard-earned booty, which the robber Eagle seizes and appropriates to his own use.

Fish Hawks are greatly attached to their young, and defend them to their utmost against both men and birds of prey. One of the parents always remains near the nest, while the other is out fishing. It is remarkable that the tree on which the nest of a Fish Hawk is built, and where the young are reared, always withers and dies in a short time afterward. Whether this is owing to some poison imparted to the tree by the birds, or to the salt water constantly dripping from the heavy moss of the nest, or to some other cause, has not been satisfactorily settled.

On dissecting a Fish Hawk, there were found the two glands on the rump, which supply the bird with oil wherewith to lubricate its feathers, in order to protect them from injury by being frequently wet. These glands were remarkably large, and contained a great quantity of white greasy matter as well as yellow oil. The gall was very small; but the intestines, with their numerous windings,

measured full nine feet, and were extremely thin. The crop or craw was of proportionate size, and the stomach large, resembling an oblong pouch. Both crop and stomach contained half-digested fish. The heart and lungs were large and strong. There was no muscular gizzard. The female bird is about two inches longer than the male. The upper portion of her head is less white than that of the male, and her breast is marked with brown streaks.

PLATE XVII.

The Cinereous Coot. (*Fulica americana.*)

This species was formerly, by some ornithologists, classed among the Natatores, or swimming birds proper; but its form, the compressed body, and especially its mode of living, designate it clearly as a connecting link between the Gallinules and the swimming birds. It has a very strong resemblance, in the formation of its whole body, to the Gallinules, except that its feet are lobed.

The Cinereous Coot usually makes its appearance in the State of Ohio about the middle of April, stays the whole summer, and leaves for the South when the rushes are destroyed by severe frosts.

This bird is found almost everywhere in Europe, but is represented in the southern parts by a related kind. It has been found in middle Asia, and in its winter-quarters, in the interior of Africa. It is probable, however, that one or the other observer may have intermixed the different related kinds, not having taken the trouble of a close examination. In Great Britain it is said to be found at all seasons, and does not seem to migrate to other countries, but merely changes its station in autumn from the lesser pools or loughs, where their young are reared, to the larger lakes, where these birds assemble in winter in large flocks. They are also found in Germany. They avoid rivers and brooks as well as the sea, and prefer still waters, whose borders are overgrown with rushes and reeds.

They are consequently most numerous in the marshes of the larger lakes, and on the larger ponds. The time of their appearance in the spring depends chiefly, it seems, on the melting of the snow and ice. They remain in the same place during the whole summer, and in autumn begin to wander, assembling sometimes in immense flocks on the larger sheets of water, whence they migrate to the South, usually in the latter part of October and in November.

The Coot is oftener seen on the water than on land, but frequents the latter, especially during midday, to take a rest, and to clean and put its plumage in order. Though the feet of the Coot are rather awkwardly constructed for running, it runs tolerably well on the ground; but spends by far the greater part of its life in swimming. Its feet are excellent rudders, for what their swimming lobes are lacking in breadth, is made up by the length of the toes. The Coot is also an expert diver, and contests the palm, in this respect, with many real swimming birds. It dives to considerable depths, and swims, with the help of its wings, great distances under water. To escape danger, it always sinks itself in deep water. Before it rises for a flight, it flutters for a great distance over the surface, striking the water so violently with its feet that the noise of the splashing can be heard at a great distance.

The Coot is very loquacious, chattering to its companions almost incessantly. Its voice is a shrill "Kuw," and the shrillness, in time of anger, is doubled or even trebled. It also utters a short, hard "Pitts," and at times a hollow guttural sound. It is a very sociable bird among its own kind, except in the breeding season, when each pair always strive to keep a certain district for themselves, into which they never suffer any other birds to enter. Even in their winter-quarters, Coots do not like to see other swimming birds, and make it a special point to drive away Ducks.

Aquatic insects and their larvæ, worms and small shells, and several kinds of vegetable matter, which they find in the water, form the principal food of Cinereous Coots. They pick up their food in swimming and diving, either from the surface, or by diving after it to the bottom. Some Coots, kept in captivity, lived for a whole winter exclusively on grain, and although they were occasionally fed with small minnows, which they readily ate, they seemed to prefer the grain. Whenever the Coot has settled on the smaller ponds or swamps it begins to build its nest, which is formed in the rushes near the water's edge. It is built on the trampled down stocks of weeds and rushes, and is composed of the dry stocks of the same. The upper layers and the interior consist of a little finer material, such as the finer weeds, dry grass, and fibers. The female lays, in the latter part of May, from seven to twelve eggs, rather large in proportion to the size of the bird, having a fine but hard shell, of a yellowish brown color, sprinkled over with dark ash colored and blackish brown dots, chiefly on the large end. The eggs are hatched in about twenty or twenty-one days. As soon as the young quit the shell and are dry, they plunge into the water, and dive and swim with the greatest ease, but always cluster again about the mother, taking shelter under her wings, while the male warns and protects them from danger. For a considerable time they return nightly to their nest; but gradually they separate more and more from the parents. Long before they are fully fledged, they become independent of parental care.

The female Coot frequently breeds twice in a season, but may be called lucky if she raises one-half of the young she hatches. Great havoc is made among them, before they have learned by experience to defend themselves, by the Marsh Hawk and other kinds of the Hawk tribe, as well as by turtles.

A Coot is found in Europe, the *Fulica Atra*, resembling the American, though differing from it in having the bill and frontal plate perfectly white, while on the American Coot the frontal plate is always of a bright chestnut color. The Coot's gizzard is strong and muscular, like that of a common hen. The male and female are colored alike, except that the black on the head and neck of the female is less brilliant. The flesh of the Coot, even that of the young, makes an unsavory dish for the table.

PLATE XVIII.

The Pileated Woodpecker. (*Hylatomus pileatus.*)

Fig. 1.

This Woodpecker, second only in size to any other, is a true American bird, and may be called the chief of all northern Woodpeckers. His range extends from Upper Canada, all over the United States, to the Gulf of Mexico. He abounds most in the North, in forests of tall trees, particularly in the neighborhood of large rivers, where he is noted for his loud cries, especially before wet weather. At such times he flies, restless and uneasy, from tree to tree, making the forest echo with his outcries. In the State of Ohio, and generally in all the Northern States, he is called the Black Woodcock; in the Southern States they call him the Log-cock. Every old trunk in the forest where he resides, bears more or less the marks of his chisel-like bill. Whenever he finds a tree beginning to decay, he subjects it to a close examination, in order to find out the cause, going round and round it, and pulling the bark off in strips often several feet long, laboring with astonishing skill and activity. He has frequently been seen to strip the bark from a dead pine tree, eight or ten feet down, in less than fifteen minutes. Whatever he is doing, whether climbing, stripping off bark, or digging, he seems to be always in great haste. He is extremely watchful and shy, and is consequently difficult to kill. He clings closely to the tree after having received his mortal wound, and does not even quit his hold with his last breath. If shot at on

the wing, and only one wing is broken, as soon as he drops to the ground he makes for the nearest tree and climbs on it high enough to be out of reach. When wounded, and lying on the ground, he strikes with great fierceness at the hand stretched out to seize him. He is one of the few birds that are never content when caged or confined.

This bird is now in one part of his district and then directly in another part, roaming through the whole of it in an incredibly short time. In the course of a few minutes, his cries are heard in different places, remote from each other. He utters three principal cries—two in flying, and the other when sitting or climbing: the former sounding like "Kerr, Kerr," and "Kleeck, Kleeck;" the latter like "Kluh," lengthened out and penetrating, or like "Kleha, Kleha." Besides these cries he has several others, which he utters for the most part when near his nest. His flight is different from that of other Woodpeckers. He does not, like them, fly by starts, or in alternately ascending and descending lines, but wavelike forward in a straight direction, spreading his wings far apart and striking the air hard, so that the points of the larger quills appear to be bending upward, causing his flight to resemble that of the Jay. It is, however, more gentle than that of the other Woodpeckers, and seems to require less exertion. The distinct whirr which we hear in their flight, we do not hear in his. Although he seems averse to long flights, he has been observed flying directly forward, without stopping, for the distance of about half a mile. He hops rather awkwardly on the ground, where he is frequently seen examining the ant-hills in quest of the larvæ or eggs, of which he seems to be extremely fond. In climbing, and boring with his chisel-like bill, he is very expert. When he climbs, he puts both feet forward like all other Woodpeckers. He may therefore be said to hop up the trees, and this he does with great force, so that one can distinctly hear his claws striking into the bark. While climbing he keeps his breast away from the trunk, bending his neck backward.

His food consists of ants and their larvæ, which he picks up with his sticky tongue. He also devours the larvæ of beetles found in pine forests, and to get at them he chisels large holes in the trees. The mating season of these birds is in April, early or late, according to the season. The male at that period flies after the female, crying aloud, and coming up to her, or becoming tired of flying after her, he alights on the withered top of a tree and begins to drum. He chooses on the tree a place where the beating of his bill will resound the loudest. Pressing his tail hard against a dead limb, he raps so quickly and forcibly upon it with his bill, that the noise made sounds like a continued "Er-r-r-r-r-r-r." The rapid motion of the red top on his head appears like a glowing spark on the end of a burning stick, moved quickly to and fro. The female makes her appearance after the drumming, or sometimes answers by quickly repeated "Kluck, Kluck, Kluck." The male also keeps up his drumming while the female is sitting on the eggs.

For their nests these birds seek a decayed or hollow tree, choosing a knot-hole for the entrance. This hole is widened by the female, so as to make it sufficiently large for going in and out with ease. The inner part of the tree is then hollowed out with peculiar dexterity. This process seems to be very difficult for the female, as there is not room enough for working with her bill. The sounds made are very dull, the chips small, and the work progresses slowly; but as soon as she has gained more room, she is enabled to dig out larger chips, and the work goes on more rapidly. Chips have been found under a tree where she was at work, from four to five inches long and half an inch in breadth and thickness. The female only works in the forenoon, going out in the afternoon after food. After laboring hard from ten to sixteen days, she has the nesting-place prepared. It is from fifteen to twenty inches deep and from eight to ten inches in diameter, the sides being very smooth, and the bottom bowl-shaped and covered with fine chips. On these chips the female lays three, four, and sometimes five eggs, which are rather small and of a brilliant white color, looking like enamel. The nest is usually built high up on a tree, generally on a pine tree.

The same nest is used for several years, but is usually cleaned out and enlarged. The male assists the female in hatching, the female sitting on the eggs during the night and the early morning hours. The newly hatched young are ill-shaped, being sparingly covered on the upper part of the body with a grayish black down, and the head being very large and the bill thick and clumsy. The parents seem to be very fond of their young, and utter mournful sounds when any one approaches the nest, and risk even their own lives in defense of their brood. The young are fed from the crops of the old birds, and their food consists chiefly of the so-called eggs of the black ant. If not disturbed, they remain in the nest until perfectly fledged; but before that time they often climb up to the entrance and take a look at the outside world.

The Hairy Woodpecker. (*Picus villosus.*)

Fig. 2.

This species may be regarded as a true type of the Woodpeckers (*Pici*). They are found almost exclusively on the trunks of trees, and are seldom seen on the ground. They are resident birds, and rarely missed in the orchards, where they are always busily engaged in boring apple trees, eagerly hunting for insects, their eggs or larvæ, in old withered stumps, rotten branches, and crevises of the bark. They inhabit North America from Hudson's Bay to the Carolinas and Georgia. In May, this Woodpecker retires to the groves and deeper forests with his mate to breed, though they frequently choose the orchard for that purpose, and select a suitable apple or pear tree. They seek a branch already hollow, or dig out an opening for their nest. The nest has been found more than four feet from the mouth of the hole. They dig first horizontally, if in the trunk of a tree, for six or seven inches, and then obliquely down for twelve or fifteen inches, carrying the chips out with their bills or scraping them out with their feet. A nest is now made with fine chips at the bottom of the hole. The female lays from four to five bluish white eggs and hatches them out in June. Their residence in summer is limited to a comparatively small extent of country; but in the fall and winter they roam about in a larger district, and usually in company with Nuthatches, Creepers, Titmice, and Golden-crested Wrens. In summer they never suffer another bird of their kind to come within their district. They make their appearance in a moment, as soon as they hear a knocking resembling that of another Woodpecker. In their roamings they fly chiefly from tree to tree, avoiding large open spaces.

These Woodpeckers are lively, active, and daring. Their contrasted colors make them look beautiful, even when seen from a distance, and especially when they are flying. It is a fine sight when on a clear, sunny day they chase each other from tree to tree, or climb swiftly up in the sunshine on the branches or the trunk of a tree, or when they bask in the sunlight on the tops of high trees, or on a withered limb execute their playful drumming. They are almost constantly in motion, and enliven the forests, especially the dark pine woods, in a most agreeable manner. Their flight is swift and produces a humming; but it is usually not far extended. They rarely come down to the ground, but when on it, hop about with considerable skill. They prefer to sit on the tops of the trees, repeating their "pick, pick, pick," or "kick, kick, kick." Their sleeping-places, like those of all Woodpeckers, are hollow trees, and to these they retire when wounded. Such is their conduct toward their own kind and toward other birds that they can not be called sociable. They can be easily deceived by imitating their drumming, especially in the spring-time, as at that time, besides their desire for food, jealousy is brought into play. In summer, when thus deceived, they appear close before you, climbing about on all the branches to get a sight of the supposed rivals or intruders; on such occasions both the male and female make their appearance.

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Their food consists of different kinds of insects, their eggs and larvæ, and also of nuts and berries. It is principally gathered from trees. For their young, they chiefly pick up small caterpillars. They are very useful in forests and orchards, as they destroy the insects that infest the trees. Frequently, after a few hard raps with their bills on a small limb, they run round to the opposite side to pick up the insects that the jarring has started out. The male and female alternately sit on the eggs, and the young break out of the shell in fourteen or sixteen days. They are at first helpless and deformed, but are most tenderly taken care off by their parents, who, when there is any seeming danger, wail piteously and never leave the nest. For a long time after the young are fully fledged, they are guarded and fed by the parents until perfectly able to find their own food and take care of themselves. The male and female birds are alike in color, except that the female lacks the red on the hind head, and the white below is tinged with brown. The name of Hairy Woodpecker is doubtless bestowed upon this bird on account of the white lateral spot on the back, composed of loose feathers resembling hair. This bird usually utters a loud tremulous cry in starting off, and when alighting. When mortally wounded it will hang by the claws, even of a single foot, while a spark of life remains.

PLATE XIX.

The Clapper Rail. (*Rallus crepitans.*)

Fig. 1.

The Clapper Rail, designated by different names, such as the Mud Hen, Meadow Clapper, Big Rail, and several others, is a well-known and very numerous species, inhabiting the whole Atlantic coast from Florida to New England, and probably still more northward. Although they chiefly inhabit the salt-marshes, these birds are occasionally found on the swampy shores and tide waters of our large rivers, as well as on the lakes. They, as well as other rails, are birds of passage, arriving on the coasts the latter part of April, and leaving late in September. They have been observed in great numbers at the mouth of the Savannah river, in the months of January and February, and it is therefore very probable that some of them winter in the marshes of Georgia and Florida. They are often heard to cry while on their spring migrations, pretty high up in the air, generally a little before day-break. The shores, within the beach, consisting of large extents of flat marsh overgrown with rank and reedy grass or rushes, occasionally overflowed by the sea, by which they are cut into numberless small islands with narrow inlets, are the favorite breeding-places of the Clapper Rails, which are found there in double the number of all other marsh-birds.

The arrival of the Clapper Rail is announced by his loud, harsh, and incessant crackling, which bears a strong resemblance to that of the Guinea-fowl. It is generally heard during the night, and is greatest before a storm. Toward the middle of May the Clapper Rails begin to construct their nests and lay their eggs. They drop their first egg in a cavity lined with only a little dry grass, to which is gradually added, as the number of eggs increases, more and more grass, so that by the time the number of eggs reaches the full complement, usually nine or ten, the nest has attained a height of ten or fourteen inches. The reason for building the nest so high is doubtless to secure them from the rising of the tides. The large rank marsh-grass is skillfully arched over the nest, and knit at the top, in order to conceal the nest from view, and afford shelter against heavy rains; but instead of concealing the nest, it enables the experienced egg-hunter to find it more easily, for he can distinguish the spot when it is at a distance of from thirty to forty yards, although an unpracticed eye would not be able to discern it at all. The eggs are of a pale clay color, sprinkled over with numerous small spots or dots of a dark red. They measure fully an inch and a half in length by one inch in breadth, and are obtuse at the small end. They are considered exquisite food, far surpassing the eggs of the domestic hen. The proper time for collecting these eggs is about the beginning of June. The nests are so abundant, and some persons are so skilled in finding them, that sometimes from forty to fifty dozen are collected in one day by a single individual.

The Crows, Minks, and other animals hunt their eggs and destroy, not only a great number of them, but many of the birds also. Heaps of bones, feathers, wings, and eggs of the Clapper Rail are often found near the holes of Minks, by which these animals themselves are in turn detected, driven out, and killed.

The poor Clapper Rails are subjected to another calamity of a more serious and disastrous nature. It happens sometimes, after the greater part of the eggs are laid, that a violent northeast storm arises, and drives the sea into the bay, overflowing the marshes, and destroying all the nests and eggs. Besides, vast numbers of the birds perish, as the water rushes in suddenly, and the birds being entangled are unable to extricate themselves in time to escape drowning. Hundreds of these birds may be seen at such times floating over the marshes in great distress, a few only escaping to the mainland. On such occasions great numbers may sometimes be seen in a single meadow, bewildered and not trying to conceal themselves; while the bodies of female birds that perished in their nests are washed to the shore, with scarcely a male among the dead bodies. After such an occurrence the birds go to work again as soon as the water subsides, and in about a fortnight the nests and eggs are about as numerous as they were before the calamity. Instances have occurred when such a disaster happened twice in a breeding-season, and yet the Clapper Rails were not discouraged, but commenced building nests and laying eggs for the third time.

The young of the Clapper Rails bear a strong resemblance to the young of the Virginia Rails, although they are somewhat larger. They are covered, as well as the young Virginia Rails, with a soft black down, but differ from the latter in having a whitish spot on the auriculars, and a whitish streak along each side of the breast, belly, and fore part of the thigh. The legs are of a blackish slate color. These birds have a little white protuberance near the tip of the bill, and they are also whitish around the nostrils. They run with the greatest facility among the long grass and reeds, and can only be caught with great difficulty. Several young Clapper Rails caught in the marshes in New Jersey, about the middle of July, corresponded with the above description, the males and females being marked alike. The extreme nervous vigor of its limbs, and its compressed body, which enables it to run among the grass, reeds, and rushes with the greatest rapidity, seemed to be the only means of defense of this bird. Almost everywhere among the salt-marshes are covered passages under the flat and matted grass, through which the Rail makes its way like a rat, without being noticed. From nearly every nest runs one or more of these covered roads to the water's edge, by which the birds can escape unseen. If closely pursued, the Rail will dive and swim to the other side of the pond or inlet, rising and disappearing with celerity and in silence. In smooth water the Rail swims tolerably well, but not fast; he sits rather high in the water with the neck erect, striking out with his legs with great rapidity. On shore, he runs with the neck extended, frequently flirting up his erect tail, and running on smooth ground nearly as fast as a man.

These birds are always very difficult to catch on land even when their wings are broken. They can remain under water four or five minutes, clinging closely to the roots of rushes with the head bent downward. Their flight resembles that of a Duck. They generally fly low above the ground, with the neck extended, and with great velocity; but like all the Rail tribe they have a dislike to take wing, and whenever you traverse the marshes and accidentally start one Clapper Rail, you may be sure that there are hundreds of these birds, which, if hunted by a dog, will lead him

through numberless labyrinths, and only flush when he is just at the point of seizing them.

The male and female Clapper Rails are colored nearly alike; but the young birds in the first year differ somewhat from them in color. The upper parts of these young birds are of a brownish olive streaked with a pale slate color; the wings are of a pale brown olive; the chin and throat, white; the breast, pale ash colored, and tinged with yellowish brown; the legs and feet are of a light horn color. These birds are never found at a great distance from the lakes or large rivers in the interior part of the country; on the lakes they are frequently found, but never in great numbers. The Clapper Rail feeds chiefly on small shelled fish, especially on those of that form of snail found so abundant in the marshes; but he also eats worms, which he digs out of the mud, and for which work his bill is wonderfully adjusted. He also feeds on small crabs.

In the month of October, Clapper Rails migrate to the South, never in flocks, but singly or in pairs, flying high up in the air. None of them remain North during the winter, though one of them was killed in the Reservoir, about thirty-three miles north-east from Columbus, Ohio, in the latter part of November; but on a close inspection, it was found that the bird had been crippled.

The Belted Kingfisher. (*Ceryle alcyon.*)

Fig. 2.

The Belted Kingfisher is an inhabitant of the shores and banks of all our fresh-water rivers from Hudson's Bay to Mexico. He seems to love running streams and falling waters, like the whole of his tribe. At such places, resting on an overhanging bough above a cataract, he will remain for hours, glancing around with piercing eyes in all directions, seeking to discern in the water below small minnows, which, as soon as seen, with a sudden circular plunge, executed with the velocity of an arrow shot from the bow, he sweeps from their element and swallows in an instant. The voice of the Belted Kingfisher resembles the sound of a child's rattle; it is sudden, harsh, and very loud, but in a certain degree softened by the murmuring of the brooks, or the sound of the cascades or brawling streams, among which he generally rambles. He courses up and down the stream, along its different windings, at no great height above the water, sometimes poising himself by the rapid action of his wings, in the manner of some of the Hawk tribe, in order to pounce down into the water on some small fish, which he frequently misses. After such a miss he usually settles, with a dissatisfied look, on an old dead overhanging limb of a tree to shake off the water from his plumage and to reconnoiter again. Mill-dams are frequented by him, as the neighborhood usually abounds with small fish. Rapid flowing streams, with steep high banks of a clayey or gravelly nature, are also his favorite places of resort, as on such steep and dry banks he usually digs a hole for his nest. This hole he digs with his bill and claws, extending it horizontally, sometimes to four or even six feet, and about half a yard below the surface, with a small cavity at the bottom for the nest. This is composed of a few fibers, a few dried fish-bones, and a little dry grass. The female lays five pure white eggs, comparatively of rather a large size. The young are hatched about the beginning of June; but the time differs according to the climate of the country where the breeding takes place. In the southern parts of the United States, the female Kingfisher has been found sitting on her eggs as early as the beginning of April, while in Ohio the Kingfishers' nests, with the birds sitting on the eggs, are not usually found till toward the end of May. They occupy the same hole for several years as a breeding-place, and will not readily forsake it, even though it should be visited. There are accounts of people taking away the eggs of a Kingfisher, leaving one in the nest, and repeating this till they had collected twelve, or even eighteen eggs, the female always laying regularly one egg every day. Such accounts being doubted, an experiment was made, by taking from a nest-hole in the steep bank of the Connecticut river, a little below Middletown, Connecticut, the second egg laid; but instead of laying another egg, the birds abandoned the nest altogether. A similar experiment was tried in Ohio, with a like result.

In the Eastern and Western States, the Kingfisher generally remains until the commencement of the cold season, when he leaves for warmer regions, though he is occasionally seen in the Northern States in the middle of winter. He is found in the Southern States during nearly the whole winter. The Belted Kingfisher is like all the rest of the Kingfisher tribe, not much inclined to society, but is generally seen singly or in pairs, or in small groups of three or four. When crossing from one brook or river to another, or from one lake to another, which the Kingfisher frequently does, he passes over cities or forests in a bee-line, not unfrequently for a distance of ten or twenty miles. At such times his motions consist of five or six flaps, followed by a glide without making any undulations like the Woodpecker. In May, 1850, on a little creek in Connecticut, called the Hockanum, a Belted Kingfisher was observed on the ground, flapping his wings and seemingly in great distress. On coming up to him the observer found that his bill was stuck fast in a large clam. He had probably seen the clam on the muddy bank of the creek, with the shell partly open, and, in the attempt to pull the clam out, the shell had closed upon his bill. The passer-by of course liberated the poor bird, which kind act he acknowledged by biting his benefactor on the thumb, and by springing his rattle at him most indignantly as he flew away.

PLATE XX.

The Ash-colored or Black-cap Hawk. (*Astur atricapillus.*)

This beautiful Hawk has been confounded by many Ornithologists with the Goose Hawk of Europe; but there is such a difference between them that it is really wonderful how the two birds could be supposed to be identical. The greatest difference between these birds is in the markings of their breast and under parts, and this difference is so distinct as at once to strike the beholder. On our Hawk the under parts are of a uniform pale grayish white, each feather having in the center a black streak; this extends to the feathers in the center of the belly, after which the streak is hardly any more visible: besides this, every feather is marked transversely with fine, irregular zigzag bars of dark gray. In the European bird, each feather on the breast and lower parts is marked with a dark shaft, not exceeding its own breadth, and has besides two decided transverse bars, giving the bird, at a first glance, a very different aspect from the American Hawk. The upper parts of the latter are of a blue shade, and the markings of the head are darker and more decided. Some Ornithologists have classed this Hawk with the genus Astur, while others make it a sub-genus of Accipiter, in which the Sparrow Hawk and lesser species have been placed. Although there is some difference in the formation of the tarsi, the habits and forms are in general nearly similar. The Broad-winged Hawk (Astur Pennsylvanicus) is an example of the one, and our Hawk that of the other.

The Black-capped Hawk is very spirited, and his general form and aspect denote great strength; his legs are very strong, and his claws rather large in proportion, the claws of the inner toes being as large as those of the great toe; his wings are short and rounded, showing, when expanded, a considerable inner surface, very favorable to a smooth sailing flight, which is greatly aided by the lengthened tail. His favorite abodes are forests or well-wooded countries, where he can be seen hunting his prey about the skirts of the woods. In such places he builds his nest, usually on a high

tree, the nests differing in nothing from those of other Hawks. The female lays two and sometimes three dirty white eggs, which are disproportionately thick on the round end and suddenly tapering to a point. The flight of this Hawk is a sailing in circles, or a skimming near the ground in search of prey, at which he darts with great celerity either on the ground or on the wing. It is a real curiosity to see him pick up a bird, when flying near the ground, so quickly that it is seldom noticed when he stoops and clutches it, as he seems to fly along as if nothing of the kind had happened. His long and expanded tail serves him as an excellent rudder, when threading dense woods, which he performs with great dexterity. When resting he assumes a very erect position. The young of the first season are destitute of the fine zigzag markings on the breast and belly; but each feather is marked with a broad longitudinal streak of dark brown, while the head is of the same color without distinctness in the markings.

PLATE XXI.

The Long-tailed Duck. (*Harelda glacialis.*)

The Long-tailed Duck passes on the eastern coast of the United States under the name of South-Southerly, from the singular resemblance of its cry to those words. The people inhabiting or living near the coasts say that when these ducks are very clamorous, it betokens a southerly wind or storm. In New Jersey and in the State of New York they are usually called Oldwives. They are a regular salt-water Duck, inhabiting bays and coasts only late in the fall or in winter. They are rarely found in the marshes, and very seldom ramble far from the sea, keeping always to the channel, where they may be seen constantly diving for small shelled fish, which seem to be their principal food. When passing from one bay to another, often in large flocks, their loud and clamorous cry can be heard at a great distance, especially toward evening. They are lively and restless, and in their swift flight usually make but short excursions. They inhabit corresponding latitudes in both America and Europe, where great numbers of them remain the whole winter, or rather, the whole year round, only a few of them, comparatively speaking, wandering off toward the south in the cold season. Flocks of these Ducks have been found, in the months of October, November, December, January, February, and March, in the Orkney islands. They have also been frequently found in Sweden, Lapland, and Russia.

One of their chief breeding-places is Hudson's Bay. They make their nests among the long grass near the sea; these are composed of dry rushes and grass, lined inside with a fine soft down from the breast of the female. Toward the middle of June, the latter lays from ten to fourteen bluish white eggs, of about the size of those of a pullet. The young, as soon as they are hatched, follow their mother to the water, never returning to the nest again.

On the whole, the Long-tailed Ducks are pretty hardy birds and most excellent divers. Their flesh is not held in great esteem, as it is rather dry, and has, besides, a sedgy taste. Their feathers, and especially those of the breast, and their down, are of the best quality for bedding.

The wind-pipe of this Duck is similar to that of other Ducks, and rather curiously formed; the labyrinth is large and is partly of a circular form, and the wind-pipe immediately above it has an expansion of double its usual diameter, which continues for about an inch and a half. This is flattened on the side next the breast, making an oblong space like a window, which is crossed with fine narrow bars, and covered with a thin semi-transparent skin. A similar skin is spread over the external side of the labyrinth. This singular conformation is, as in all other Ducks, peculiar to the males of this species, which have the wind-pipe of nearly the same thickness throughout. On dissection the length of the intestine was found to be five feet and seven inches, and the liver rather large.

On our plate the full-plumaged male is represented on the right hand, giving a side view, while the female pilots her young about on the water. Both male and female are in their summer dress. On the left hand of our plate the male and female Long-tailed Duck are represented in their winter dress.

In conclusion, it may be remarked that the singular voice of this Duck was supposed by some Ornithologists to be occasioned by the peculiar construction of its wind-pipe; but this can not be the case, for the simple reason that the female of this species is the most noisy, and yet is partially destitute of that peculiarly formed wind-pipe.

PLATE XXII.

The Barred Owl. (*Syrnium nebulosum.*)

This is one of our most common Owls, and more frequently than any other is seen late in the fall or in winter, especially near the borders of creeks or rivers, or near swamps bordered by woods. In summer it is generally found in dense forests, flying about from place to place during the entire day, seeming not to be a nocturnal bird, but to see better in the day-time than any other Owl. It is by no means a shy bird, but will often, at night, come close to a lonely camp-fire, exposing itself to the glare of the fire, without showing the slightest token of alarm. It will turn its unusually thick head toward you, and scrutinize you with its large black eyes. In Louisiana these Owls seem to be the most abundant, and in passing through the dense woods the traveler may often count six or eight in the distance of a few miles, and at the approach of night, their cries can be heard from every patch of woods near the plantations. In dark and cloudy days, indicating an approaching rain-storm, their cries are multiplied during the day, and are louder than usual. On the coming on of a storm, they respond to each other in such unearthly and strange tones, that one can not help thinking that something extraordinary is taking place among them. Their motions and gesticulations are, on such occasions, stranger and more lively than usual. On approaching the bird, it at once changes its perpendicular position to a horizontal one, throwing the lateral feathers of the head forward, so as to make it appear as if surrounded by a broad ruff, moving it round, and backward and forward so quickly as to cause it to look as if it were dislocated from the body. All motions of the intruder are looked at with eyes that seem as if they were half-blind, and with a suspicion of treacherous intentions. The bird flies off to a short distance, alighting with its back toward the intruder, but immediately turns to begin its scrutiny anew. If you do not shoot at it, you may follow it in this way for a long distance; but if shot at and not wounded, it will fly off to such a distance that you will lose sight of it, though you may hear its pompously uttered "wha, wha, wha," from time to time.

The flight of this Owl is light, smooth, and perfectly noiseless, so much so that not the slightest rustling of the wings can be heard, even if it flies only a couple of yards above your head. If the occasion requires it, their flight can be greatly protracted, as they have been noticed to fly on one stretch a distance of over two miles. The writer has noticed the Barred Owl several times in the day-time sailing about in the air in small circles, in a manner similar to the hawk, rising to a great height and then flying off to a distance, in an irregular zigzag line, while briskly flapping its wings. He also several times found the nest of that Owl containing eggs, the number of which, when the bird was sitting, was invariably three. These were of the size of a hen's egg, but more globular, and had a coarse rough shell of a pure white color.

All the nests found were snugly built in the fork of some large tree, and among its thick foliage. The nest was, however, rudely

constructed, being composed outwardly of sticks, interspersed with dry grass and dry leaves, and lined with small twigs, fibrous roots, and a few feathers. The food of these birds consists chiefly of mice, moles, frogs, lizards, snakes, and sometimes fish. The young birds have been often taken from the nest and placed in a room with the window open, and, in all such instances, the young ones have been found by their parents the very first night, although the distance of the room was, in one case, over two miles from the nest. The parent birds brought plenty of food to their young, so that almost every morning, a great many frogs, mice, etc., had to be thrown out. Only once, in all these experiments, did the old birds bring a partridge; but this, on close inspection, was found to be in a far-advanced state of decay. The previous night had been very dark and stormy, perhaps the old birds had not been able to catch any live prey, and had brought the dead partridge to serve as food for their young in case of extreme need.

The young are, for some time after birth, covered with a fine white down, which gives them a peculiar, but not an uninteresting appearance. Their call or cry is a singular hissing sound, which can be heard at a great distance. These birds, like most other Owls, are clothed with feathers of very different shape and texture. Those surrounding the bill are similar to bristles; those around the region of the eyes are unwebbed and extremely open, and are bounded by a set proceeding from the external edge of the ear, small and velvety, consisting of exquisitely fine fibers, almost invisible to the naked eye. The outward plumage of these birds has one general character at the surface, calculated to repel rain and moisture; but toward the roots of the feathers, it is composed of a very soft, loose, and downy substance, so that we may touch without feeling it. The webs of the wing-quills are also of a delicate softness, covered with exceedingly fine hair, and edged with a fine, loose, silky down. All this enables the Owl to pass through the air without disturbing, in the slightest degree, the most profound stillness. The long bristly feathers around the bill and the eyes serve to guard the latter from injury, when the Owl sweeps rapidly through a thicket, as on the slightest touch at the point of any of these bristles, the nictitating membrane is instantly drawn over the eye.

There is often a remarkable difference in size between the male and female, and between the birds generally of this species. The usual length of the female is about twenty-two inches, though I have shot one that measured twenty-eight inches. The usual average of the male is seventeen inches, by thirty-eight inches in circumference. The Owl represented on our plate is a female in full plumage.

SONG OF THE OWL.

BY MRS. HEWITT.

Tu-whit! tu-whoo!—in my ancient hall,
In my old gray turret high,
Where the moss is thick on the crumbling wall,
A king—a king reign I!
Tu-whoo!
I wake the wood with my startling call
To the frighted passer-by.

The ivy-vines in the chink that grow,
Come clambering up to me;
And the newt, the bat, and the toad, I trow,
A right merry band are we.
Tu-whoo!
Oh, the coffined monks in their cells below,
Have no goodlier company.

Let them joy in their brilliant sunlit skies,
And their sunset hues, who may;
But softer by far than the tints they prize,
Is the dense of the twilight gray.
Tu-whoo!
Oh! a weary thing to an owlet's eyes
Is the garish blare of day.

When the sweet dew sleeps in the midnight cool,
Some tall tree-top I win;
And the toad leaps up on her throne-shaped stool,
And our revels loud begin—
Tu-whoo!
While the bull-frog croaks o'er his stagnant pool
Or plunges sportive in.

As the last lone ray from the hamlet fades
In the dark and still profound,
The night-bird sings in the cloister shades,
And the glow-worm lights the ground—
Tu-whoo!
And fairies trip o'er the broad green glades,
To the fire-fly circling round.

Tu-whit! tu-whoo! all the livelong night,
A right gladsome life lead we;
While the starry ones from their azure height,
Look down approvingly.
Tu-whoo!
They may bask who will in the noonday light,
But the midnight dark for me.

PLATE XXIII.

The Blue-bird. (*Sialia sialis.*)

The gentle and sociable disposition and the peculiarly pleasing manners of this beautiful little bird entitle it to particular attention. Being one of the first messengers of spring, it brings the glad tidings of the approach of warm weather to our very thresholds. As everybody, old or young, has been expecting this pleasing visitor, he is met everywhere with a most hearty welcome. His gentle, quiet song is extremely soft and agreeable. It consists of an oft-repeated warble, uttered with open quivering wing, and very pleasing. In his manners and general bearing he always reminds me of the House Red Start of Europe, to which in his motions and general character he bears a very strong resemblance. Like that bird he is quiet and confiding, and of a very peaceable disposition, never quarreling or fighting with other birds. His presence is not only desired, but generally courted in rural districts; few farmers, or their boys, failing to provide, in some suitable place, a nice snug little house ready fitted up for him. In his turn he repays the good farmer tenfold for his kindness, by his cheerful song, and by daily destroying a multitude of insects, that might otherwise ruin the farmer's whole fruit crop. The song of the Blue-bird changes in the month of October to a single plaintive note, which is most noticed when he flies over the yellow and reddish colored woods, this melancholy air reminding us of nature's gradual decay. Even after the trees are completely bare of leaves, he seems to dislike leaving his native fields, but lingers around until the heavier frosts. Want of food finally compels him to leave. This happens about the latter part of November, when only a few or no Blue-birds are to be seen; but they reappear, at least in this part of the country, on every return of open and mild weather, so that we hear their plaintive notes in the fields, or in the air over our heads; and they seem never totally to forsake us, but merely to follow fair weather in their wanderings until the return of spring. Even in the midst of winter, when the whole earth is covered with deep snow, small groups of Blue-birds are frequently met with conducting themselves as usual, seemingly unconcerned about the inclement weather.

The Blue-bird is generally regarded as a bird of passage; but if the weather is at all favorable, he reappears as early as the middle of February, fluttering about his wonted haunts, the barn, the house-top, the orchard, or the fence-posts. Deep snow-falls, or stormy weather, drive him away again, but only for a short time,

as he regularly returns about the middle of March. At this time, the male and female are seen together examining the box or hole in the apple-tree where they raised their young the previous year. It is not only amusing but interesting to observe the courtship of the male bird, and the pains he takes to win the tender regard of the female. Always sitting near her, he makes use of the most tender expressions, and sings to her his most endearing warbles. If he spies an insect which he knows is pleasing to her taste, he at once flies down and picks it up; flying back to her and spreading his wings he puts it in her bill. No sooner does a rival make his appearance than he quits her for a moment, and goes after the intruder from place to place, expressing his jealousy in unmistakable notes, driving his rival with reproof beyond the boundaries of his territory, and immediately returning, warbling his triumph in the sweetest and tenderest notes to his beloved mate.

After the settling of preliminaries both birds begin to clear out the old nest, removing the rubbish of last year, and go to work to construct a new nest, the home of their future offspring. In this business they are often annoyed by the little House Wren, just now returned from winter-quarters, who watches his opportunity, and, in the momentary absence of the Blue-bird, pops in, slyly pulling out some sticks, and taking special care to make off with them as fast as he can before the tenants return. When the nest is completed, the female lays usually five, and, occasionally, six eggs, of a delicate pale blue color. They raise two and, when circumstances are favorable, three broods in one season. The male takes particular charge of the last brood while the female is sitting again.

The principal food of the Blue-bird consists of insects, particularly large beetles, and other coleoptera that lurk among decaying trees or fences, etc. He also makes use of spiders. In the latter part of autumn he regales himself on several kinds of fruits and berries, as ripe persimmons, the berries of the sour gum, or even the berries of the red cedar, and on several other seeds and berries. It is a well-known fact that a great many birds are afflicted with a species of tape-worm; but I have never found these worms so frequently in any as in the Blue-birds and Woodcocks. In these, tape-worms are sometimes found in great numbers and of a very large size; but the poor birds are also tormented by numerous insects infesting their plumage.

Several kinds of Blue-birds are found in North America, which will be figured and described hereafter. They are very interesting links in the natural system, although it seems to the writer that some of them ought to be placed among the *Saxicolinæ*.

In the summer and fall whole families of Blue-birds are found frequenting open pastures, perching on the stalks of the great mullen (*Verbascum nigella*), on the lookout for passing insects. On such occasions, the object seems to be the instruction of the young in dexterity. The old bird can see at a great distance an insect crawling among the moss or grass, and flying to it and feeding on it, he returns in an instant to his former position. This is exactly the manner of the Saxicolinæ.

The Blue-bird, in the winter, migrates to the South, sometimes even as far as the West India islands; but some doubtless remain in the southern parts of the United States, and, in unusually mild winters, some remain even in the Northern States, coming out in mild weather to the open plains from their sheltering thickets, and retiring to them in cold and stormy weather. In the woods of the Southern States I have frequently met with large flocks. They are found in all the United States, and also in the Bahama islands, in Mexico, Brazil, and Guiana.

It is very common to see large flocks of Blue-birds passing at considerable heights in the air, in a northern direction, in the spring, and in a southern direction in autumn. I have several times observed such flocks descending a little after sunrise from great heights, and settling on the top of some high detached tree. Judging from their sedateness and silence they were tired strangers. After resting a few minutes, they invariably began to dress and arrange their plumage, continuing that operation for about a quarter of an hour. After a few warning notes had been uttered, as it seemed to me, by the leader of the flock, the whole party reascended to a vast height, and continued their flight. It does certainly seem a great task for so little and feeble a creature as the Blue-bird to migrate to the West Indies; but if he should fly at the rate of one mile per minute, and he flies swifter than that, as has often been observed, it would only require from ten to eleven hours to reach the Bermudas, which are about six hundred miles from the nearest point of the mainland. Besides, he would have many chances to rest by the way, on the masts and yards of the numerous vessels generally navigating those waters.

SONG OF THE BLUE-BIRD.

BY ALEX. WILSON.

When winter's cold tempests and snows are no more,
  Green meadows and brown furrow'd fields reappearing,
The fishermen hauling their nets to the shore,
  And cloud-cleaving Geese to the north are all steering;
When first the low butterfly flits on the wing,
  When red glow the maples, so fresh and so pleasing,
O then comes the Blue-bird, the herald of spring!
  And hails, with his warblings, the charms of the season.

He flits through the orchard, he visits each tree,
  The red-flowering peach, and the apple's sweet blossoms,
The fruit-bearing products, wherever they be,
  And seizes the caitiffs that lurk in their bosoms;
He drags the vile grub from the corn it devours,
  The worms from their beds where they riot and welter;
His song and his services freely are ours,
  And all that he asks is, in summer, a shelter.

The plowman is pleased when he gleans in his train,
  Now searching the furrows, now mounting to cheer him;
The gardener delights in his sweet simple strain,
  And leans on his spade to survey and to hear him;
The slow, lingering school-boys forget they 'll be chid,
  While gazing intent as he warbles before them,
In mantle of sky-blue, and bosom so red,
  That each little loiterer seems to adore him.

But when the gay scenes of the summer are o'er,
  And autumn slow enters, so silent and sallow,
And millions of warblers, that charm'd us before,
  Have fled in the train of the sun-seeking Swallow,
The Blue-bird, forsaken, yet true to his home,
  Still lingers and looks for a milder "to-morrow,"
Till, forced by the rigors of winter to roam,
  He sings his adieu in a lone note of sorrow.

While spring's lovely season, serene, dewy, warm,
  The green face of earth, and the pure blue of heaven,
Or love's native music, have power to charm,
  Or sympathy's glow to our feelings is given,
Still dear to each bosom the Blue-bird shall be;
  His voice, like the thrillings of hope, is a treasure;
For, through bleakest storms, if a calm he but see,
  He comes to remind us of sunshine and pleasure.

PLATE XXIV.

The Meadow Lark. (*Sturnella magna.*)

The position of this bird, although assigned by Linnæus, the father of systematic classification in natural history, to the *Alaudæ* (Larks), has often been questioned among ornithologists. Swainson puts the bird down as *Sturnella Ludoviciana;* Bonaparte.

as Sturnus Ludovicianus (sub-genus Sturnella); while others have placed it in the genera Turdus, Alanda, Sturnus, Cassicus, to all of which it is somewhat allied, but to none of them can it rank as a congerer. It is classed here as Sturnella, by which appellation it is known to most American ornithologists.

This well-known bird, with his beautiful plumage, and his sweetness of voice, is a general favorite, and particularly to the inhabitants of the rural districts. Although his song consists only of a few melodious notes, he always meets with a hearty greeting on his arrival. In the more rigorous regions of the North he is a regular bird of passage, though he is met with in the Middle States, occasionally in the heart of the severest winters, when the ground is covered with deep snow. I have found these birds in the month of January, during a deep snow, on the heights of the Alleghany Mountains, gleaning on the roadside together with a flock of snow-birds. They have been found in winter in South Carolina, among the rice plantations, running about the yards and out-houses, in company with Killdeers and other birds, as unconcerned and showing as little appearance of fear as if they were completely domesticated.

The range of the Meadow Lark is very extensive, they having been found from Upper Canada through most of the States of the Union down to the Gulf of Mexico. Their favorite places of resort are pasture fields and meadows, especially the latter, from which circumstance they claim their specific name. The reason of their preference for meadows is that these supply them most abundantly with the seeds and insects on which they chiefly subsist. They are never found in the depths of the woods, except in places where the ground, instead of underbrush, is covered with grass, where sometimes a single one or a pair may be found. They are seen most abundantly on the extensive prairies near St. Louis, and in similar localities below, on the Mississippi river.

The Meadow Lark builds his nest in the month of May, in or below the thick tussock of grass. It is composed of fine dry grass bent and laid at the bottom, and wound all round, leaving only an arched entrance level with the ground. The inside is lined with stalks of the same material, and occasionally with a few horse-hairs and other fibrous substances, disposed with great regularity and care. The full complement of eggs consists of four, sometimes, but rarely, of five; these are white, marked with specks, dots, and several larger blotches of a reddish brown color, chiefly at the rounder end. The young remain in the nest until fully fledged, and are carefully fed by both parents.

After the hatching season is over, they collect in flocks, but never fly in a compact body. Their flight somewhat resembles that of the Grouse and Quail; it is laborious and steady, alternately changing from a sailing to the renewed rapid motion of the wings. They alight on trees or bushes as well as on the ground, but in the former case always on the tops of the highest branches, preferring the dry ones, whence they send forth their long, clear, and somewhat melancholy notes, which, for sweetness and tenderness of expression, can not be surpassed by any of our best warbling birds. Sometimes these long-strained notes are followed by a low chattering, which is the special call of the female, after which the clear and plaintive strain is repeated.

The food of the Meadow Lark, or, as the Virginians call him, the Old Field Lark, consists chiefly of caterpillars, worms, beetles, and different grass seeds, mixed up with a considerable portion of fine gravel. Their flesh is of very good esteem. As the size of the bird is about that of the Quail, while the taste of its flesh is not at all inferior to the latter, they are readily sought for and shot by our gunners, to whom they afford considerable sport, being easily shot on the wing. They frequently squat in the long grass and spring within gunshot. Our plate represents the male and female, the latter being distinguished from the male, in her outward appearance, by having the black crescent on the breast of a lighter black and more skirting with gray; the yellow on the breast is somewhat less; otherwise, the markings of her plumage differ but little from those of the male.

PLATE XXV.

The Goosander. (*Mergus merganser.*)

This splendid bird is not only called Goosander, but also Water Pheasant, Sheldrake, Fisherman, Diver, Saw-bill, etc. He is a true representative of the second family of the sixth group, belonging to the fourteenth order of the fifth class. Our plate represents him in full plumage, or in his bridal dress.

The goosander is an inhabitant of the northern part of this continent, and also of the corresponding latitudes of Europe and Asia. In all these countries he is found in about equal numbers. The proper district of his range may be said to be the belt of the globe between the thirty-second and sixty-eighth degrees of north latitude. In his wanderings, which are more regular than with his kindred, he has sometimes been observed in northern parts of India and Southern China, and almost everywhere in North America.

The Goosander is ranked as one of the most handsome among swimming birds. His splendid plumage, whose chief colors are beautifully contrasted, attracts the attention of all scientific and other observers. His unusual vivacity and his rapid motions increase this attraction. His proper element is the water, on which he is almost constantly seen, except about midday, which he generally spends on a dry sandy spot on the shore, taking a rest. His walk on land is an unwieldy waddle; on wing in the air his flight appears to be quite swift, but it is performed with great exertion. He swims with the greatest ease, and dives noiselessly and as easily as he swims. When swimming quietly on the surface, he paddles with slow but powerful strokes of his broad webbed feet, and makes very good headway, but if he notices one of his associates has taken a fish and is about to swallow it, "he goes for him," and shoots over the water with almost the rapidity of an arrow, producing a considerable splash.

When swimming under the surface, the Goosander appeared to me like a fish, as he passed right under my canoe, for he shot forward with the like velocity. His stay under water is only about one minute, and at the longest, not much over two minutes; but even in this short time he often rises to the surface at the distance of over a hundred paces from the spot where he dived. This is quite a feat, when we take into account that he fishes under water, and is consequently obliged to make many zigzags. On coming to the surface he usually flaps his wings and immediately dives again.

His voice is a peculiar humming or rattling sound, which bears some resemblance to the sound of a Jew's-harp. The single sounds are somewhat like "carr" and "corr;" but these sounds are so blended together that they are best represented by the notes of the Jew's-harp. His senses are very acute, and his observations very quickly made. In watching him one can not fail to be struck with his intelligence, caution, and peculiar shyness, together with his cunning and craftiness. He is not a sociable bird, and never associates with any of his relatives, but only with birds of his own kind. Even among themselves, Goosanders never take much notice of each other, except by showing constant signs of envy; but this does not prevent them from helping one another in fishing, as they dive all at the same time, and thereby drive the fish from one bird to another. The food of the Goosander consists chiefly of fish, and he always prefers the smaller ones, from three to six inches in length, though he will sometimes catch and devour larger ones. He also feeds on large aquatic insects.

The pairing of these birds begins in the winter; but their nest-building is not commenced in the North until June. The nests are built in different places, often in hollows in the ground, sometimes under shrubbery, among rocks, in the stump of an old tree, or in an abandoned nest of a Crow or a Hawk. The nest is composed of twigs, stalks, grasses, rushes, leaves, and lichen, very artlessly

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put together; but the inside is always lined with dry and warm material, such as fine feathers. The eggs number from ten to fourteen, of an oblong form, and a light greenish color, having a strong shell of a fine grain. The young, which run about as soon as they are hatched, soon take to the water. Those that are hatched in nests on rocks tumble themselves down from considerable heights, lower and lower, until they reach the water. I have seen young Goosanders tumble themselves down from heights of ten or twelve feet, so that they lay below for more than a minute in a stunned condition; but as soon as they recovered, they shook themselves and made ready for another tumble. It seems that the heavy down with which they are covered gives them a certain degree of elasticity, and thereby shields them from injury. The young Goosanders live at first exclusively on aquatic insects, and keep on the surface of the water; but after a period of three days they begin to dive, and, after a few days of practice, they become as expert fishers as their parents. In their movements and behavior, they at first resemble young Ducks; but after the first eight days they exhibit the peculiar movements of the old birds. Up to this time they take shelter under the wings of the mother-bird to warm themselves after their fishing exercises; but they grow very rapidly, and soon become so independent as to take no heed of the mother or she of them. To produce warmth, they huddle close together, forming a sort of round heap. In about six weeks they are full grown, but not able to fly, as the growth of the quill feathers does not quite keep time with the growth of the body. The male bird takes no care of the young, except to act as a sentinel, giving a warning on the approach of an enemy.

The young of the Goosander suffer but little from the enemies that threaten other young swimming-birds. This is due to their strength and rapid motion. The old ones suffer but little from enemies, as they are very cautious and shy, and their flesh is not very desirable food, having a strong fishy taste. Their feathers are considered inferior to those of the Goose or Duck. The eggs of the Goosander are collected in the northern regions by trappers and fishermen, who are said to take from one of the same nest successively over two dozen eggs, the mother-bird always replacing the egg that was taken away; but the egg must be pulled out of the nest with a stick, and not taken by the bare hand, as in that case the bird would abandon the nest.

PLATE XXVI.

The Ivory-billed Woodpecker. (*Campephilus Principalis.*)

Fig. 1.

This most beautiful, formidable, and majestic Woodpecker is the second in size of all our American species, there being but one surpassing him in size in this country. The Imperial Woodpecker of California (*Campephilus Imperialis*) stands at the head of all Woodpeckers hitherto discovered. The beautiful dress of the Ivory-billed Woodpecker, his superb carmine crest, his ivory-white bill, his beautiful white and black body, his brilliant and piercing yellow eye, and especially his graceful flight, entitled him to particular notice. The illustrious Audubon, in his poetic style of composition, compares the distribution of the brilliant colors on our Ivory-billed with the style and coloring of that inimitable artist, Van Dyke; and indeed those who are familiar with the paintings of that great master, will readily acknowledge that Audubon is perfectly right. The manners of the Ivory-billed have a dignity about them far superior to the herd of common Woodpeckers. To the latter, trees, shrubbery, orchards, fences, fence-posts, or even old logs lying on the ground, are all alike interesting in their indefatigable search after prey; but the Ivory-billed is not satisfied with things of such an humble character, for he delights in selecting the most towering trees of the forests in his exploring expeditions after food or amusement.

The Ivory-billed is not met with in any of the Middle States of the American Union; probably for the reason that the woods of these States are not suited to the peculiar habits of this bird. Sometimes a single individual of this species is met with on the Atlantic coast, in Maryland, and a few more in the Carolinas; but the lower parts of the latter and of Georgia, Alabama, Louisiana, and especially of Mississippi, may be regarded as his favorite resorts. In these States he resides permanently, breeding there, and leading a life of tranquil enjoyment, and finding an abundance of food for his subsistence in the woods that cover the dark, gloomy, and deep swamps and morasses frequently occurring in these States. On the west side of the Mississippi, he is found in all the forests, which border the tributaries of that river, all the way down the Rocky Mountains. His favorite haunts are those gloomy swamps and morasses overshadowed by dark, gigantic cypresses, stretching their bare and blasted branches, as it were, midway to the skies. It is dangerous to penetrate into such swamps; and were it not of strong desire to learn their hidden secrets, no one would encounter the hardships and risk connected with such an enterprise. For miles upon miles the dangerous morass stretches out, and progress toward the interior is not only baffled by low. projecting arms of the gigantic trees, but often by the thorny underbrush, interwoven with a dense growth of climbing and winding plants of different kinds, and also obstructed by countless dead and decaying trunks of fallen trees, stretching their dry and withered branches heavenward in the most fantastic way. By far the greatest difficulty to the explorer is the yielding and treacherous ground, whose surface is covered with a beautiful carpet of splendid mosses, water-lilies, sword lilies, and other kinds of flowers and plants. For a time the explorer may walk safely enough on this beautiful carpet; but let him tread as lightly as he may, on a sudden he breaks through, and he sinks in the morass up to his body with the consciousness that there is an almost bottomless quagmire underneath. Involuntarily grasping the overhanging branches, he drags himself out, finding his legs covered with dark mud, emitting a most disagreeable odor. Having thus had a practical warning of the danger that lurks under his feet, the traveler proceeds, if possible, more cautiously, and this retards his progress still more. Here and there his onward course is interrupted by suddenly coming to a pond of considerable size, filled with dark, muddy water, emitting a horrible stench, that almost benumbs the senses. Such places are the favorite residence of the Ivory-billed. To him there is no danger. He is high above the reach of foul air, and, owing to his mode of locomotion, swamps and morasses do not interfere with his progress from place to place.

The flight of this bird, although short, generally not extending over a hundred yards at a time, is extremely graceful. When crossing a large river, he shoots forward in beautiful undulations, spreading out his wings fully, and only flapping them when he intends to give a more vigorous push to his forward movement. His flight from tree to tree is accomplished with a single sweep, and in a most graceful curve, as he comes down from the highest top of one tree and alights on another, on the lower part of the trunk—no matter whether the trees are only twenty yards or a hundred and fifty apart. On such occasions, he appears most amiable to the beholder, and his beautiful colors and markings show him off to the greatest advantage.

I never heard his voice while he was on the wing, except in mating time, when his sonorous voice is occasionally heard, while executing some beautiful evolutions in the air. As soon as he reaches the lower part of the trunk of a tree, and is ascending it in a spiral line, his remarkably clear, loud, and pleasing voice is heard from the distance of over half a mile. The sound of his call, which strongly resembles the word "pat, pat, pat," is so often repeated that it seems as if the bird was uttering the sound during

the whole day, with the exception of the little intervals when he flies from one place to another. This habit often leads to his destruction, and, as he is everywhere regarded as a destroyer of trees, his extermination is eagerly sought. To this it may be added that the beautiful feathers of his crest are used by Indians for war ornaments, and large numbers of the birds are killed to obtain their feathers. I have seen Indian warriors with their girdles and the tops of their quivers ornamented alternately with the crests and the bills of this Woodpecker. Indian women also use the crests for ornaments.

Wherever the Ivory-billed frequents, he leaves behind him many mementos of his industry. In such places may be seen gigantic pine-trees, with cart-loads of bark and chips lying around them on the ground, impressing one with the idea that half a dozen wood-cutters must have been at work there for at least half the day. This is all the work of our Ivory-billed Woodpecker, as well as the numerous large excavations with which the trunk of the tree is disfigured. This gives an idea what destroyers of the most useful of our forest trees these Woodpeckers, endowed with so much strength and with such an apparatus for doing work, would necessarily be if they were numerous. On the other hand, however, I may say that hundreds of such trees, on which the Ivory-billed had been at work, were closely examined by me, with the conclusion that neither mischief nor amusement was at the bottom of his proceedings. I never found a single sound and healthy tree attacked by him; but close examination proved clearly that he selected trees for stripping off the bark or excavating the trunks, which were infested with insects and on the way to rapid decay. The deadly crawling vermin form a lodgment under the bark of the trees, and what the proprietor of the forest deplores as the destruction of his timber is caused by their ravages. Hundreds and thousands of pine-trees—many of them from two to three feet in diameter, and over a hundred and fifty feet high—are destroyed in one season by an insect, or rather by the larvæ of an insect not larger than a grain of rye. Large spaces covered with dead pine-trees, stripped of their bark, their branches and bare trunks bleached by the rain and the hot rays of the sun, and tumbling to ruin at every blast, present to the beholder frightful pictures of desolation. Yet prejudice and ignorance stubbornly persist in condemning the Ivory-billed as the destroyer of property, while he is really a benefactor, as he is the constant and deadly enemy of those destructive insects. We ought to be thankful to him, as he shows us by his work where those vermin are causing a destruction in our forests. Until a more effectual preventive of the ravages of these insects is found out and applied, we ought to protect not only the Ivory-billed, but the whole tribe of Woodpeckers.

Like other Woodpeckers, the Ivory-billed live usually in pairs; at least until the young are old enough to take care of themselves, and probably during life. The male and female are always seen together; the latter being distinguished by having no red crest, but with the whole head black, inclining to a greenish glass color, and by being more clamorous, less shy, yet more cautious than the male. The time of breeding begins earlier with them than with other Woodpeckers, usually in the month of March. The nest is generally built in a live tree, and at considerable height from the ground—an ash or hagberry tree being preferred. As these birds seek retirement and shelter from the access of water during violent rain-storms, they are very particular as to the position of the tree and the "boring" of their nest-hole. The latter is generally dug immediately under the junction of a large branch with the trunk. It is first bored for a few inches horizontally, and then downward in a direct line, sometimes only a foot, and sometimes between one and three feet deep. The difference in these depths of the nest-hole may be the result of the more or less immediate necessity under which the female may be of depositing her egg. The diameter of the cavity of the nest is about eight or nine inches, and its entrance just large enough to admit the passage of the bird. Both male and female work at this excavation alternately. While the one is at work, the other will sit outside, encouraging its mate with its chatter. They never make a regular nest; but the bottom of the cavity is bowl-shaped, and covered with a few small chips, like coarse saw-dust. On this the eggs are deposited, usually five or six in number, and of a clear white color. The young can be seen, a couple of weeks before they are able to fly, creeping out of the hole, and moving about, but returning to the nest again in case of danger. The dress of the young is nearly like that of the female; but later in the fall this difference vanishes. The young males exhibit the beauty of their plumage in the next spring. After the breeding season, the old pair retire for the night to their nest-hole to sleep.

The food of the Ivory-billed consists chiefly of beetles or their larvæ; but they also feed on different kinds of berries and fruits, such as mellow persimmons or hagberries. They are particularly fond of ripe wild grapes. I have noticed them, in company with other birds, fluttering about and hanging on the vines in the manner of the Titmouse. Although the Ivory-billed is sometimes seen at work in corn-fields, on standing dry and withered trees, he never meddles with the corn, or with any field or garden fruits. If winged, he runs for the nearest tree in quick hops, and in almost a twinkling he is out of reach, climbing spirally round the trunk, uttering at each leap his "pat, pat, pat," to the top, and there squatting down under the protection of some branch, and keeping perfectly silent. If mortally wounded, he clings to the bark of the tree, and remains hanging there, often for hours after he is quite dead. When the hunter takes him alive and lays hold of him by the hand, he tries to use his bill in the best manner he can in his defense, often inflicting very severe wounds. On such occasions he utters a most piteous cry, not unlike that of a child. Wilson, in his account of this Woodpecker, has the following:

"In looking over the accounts given of the Ivory-billed Woodpecker by naturalists of Europe, I find it asserted that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that State. The first place I observed this bird at when on my way to the South, was about twelve miles north of Wilmington, in North Carolina. There I found the bird from which my drawing was taken. This bird was only wounded slightly in the wing, and on being caught, uttered a loudly reiterated, and most piteous note, exactly resembling the violent crying of a young child; which terrified my horse so as nearly to have cost me my life. It was distressing to hear it. I carried it with me, in the chair, under cover to Wilmington. In passing through the streets, its affecting cries surprised every one within hearing, particularly the females, who hurried to the doors and windows with looks of alarm and anxiety. I drove on, and, on arriving at the piazza of the hotel where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard. This was greatly increased by my asking whether he could furnish me with accommodations for myself and my baby. The man looked blank and foolish, while the others stared with still greater astonishment. After diverting myself for a minute or two at their expense, I drew my Woodpecker from under the cover, and a general laugh took place. I took him up stairs and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and on opening the door, he set up the same distressing shout, which now appeared to proceed from grief that he had been discovered in his attempts at escape. He had mounted along the side of the window, nearly as high as the ceiling, a little below which he had begun to break through. The bed was covered with large pieces of plaster; the lath was exposed for at least fifteen inches square, and a hole, large enough to admit the fist, opened to the weatherboards; so that, in less than another hour, he would certainly have succeeded in making his way through. I now tied a string around his leg, and, fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I

reascended the stairs I heard him again hard at work, and, on entering, had the mortification to perceive that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking the drawing, he cut me severely in several places, and on the whole displayed such a noble and unconquerable spirit, that I was frequently tempted to restore him to his native woods. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret."

The Downy Woodpecker. (*Picus Pubescens.*)

Fig. 2.

This really beautiful little Woodpecker is, in several of the Western States, called the Sapsucker, perhaps from his habit of boring several rows of holes around a tree, one above another, at almost regular distances apart. The question might be asked for what purpose should he bore through the apparently healthy bark of a tree, if not in order to obtain the sap. But the little bird knows better for what purpose he does the work, as whenever he is seen so engaged, we may rest assured that there is a grub-worm under the bark, and the whole story of his sap-seeking is a mere figment of the imagination. If he were seeking sap, he would certainly prefer the juicy maple or birch to any other tree; but these are seldom, or never, attacked by him, because there are hardly ever any worms to be found under their rind.

Familiarity, diligence, perseverance, and a surprising strength and energy in the head and neck, are the principal characteristics of this frolicsome little bird. He may be seen sometimes for half an hour at the same spot on an infested branch of an old apple-tree, working incessantly until he succeeds in dislodging and destroying the destructive brood of insects sheltered in the crevices between the bark and the wood. When he is so engaged, you may approach him pretty close, and stand within a few feet of him, directly under the tree where he is working, without embarrassing him in the least. Sometimes he will spend two hours on the same tree, all the time at work, while the powerful and rapid strokes of his bill can be distinctly heard at the distance of several yards.

His favorite haunts are the woods on the borders of streams, forests, or single groves; but he is also often found, especially in fall and winter, in our orchards and gardens. During the summer he keeps company only with his own kind, and moves about in a comparatively small district; but in the fall and winter, he is generally found in company with other birds, as the Titmouse, Nuthatch, Creeper, and Golden-crested Wren. In both his wood and orchard excursions, he usually leads the van; but he is never much inclined to be amiable toward his companions of other kinds, nor does he take any notice of them, a disposition that seems to be the result of a mere desire for food. He will, for the same reason, come to the spot, when, by beating on a dry limb, you have imitated his drumming. This desire for food will make him believe that another of his kind, whom he is not much inclined to favor, has had better luck than he. In his ramblings he avoids, like the Hairy Woodpecker, flying across open plains, and as the sole object of his ramblings is to find more plentiful food, he does not regard roundabout ways. He is very lively, always in motion, and seemingly always in a hurry to get through with what he is engaged in, and contributes, by this and his thin but shrill voice, "krick, krick, krick," or "tick, tick, tick," a great deal to enliven the forest, especially a dark pine-forest, in the most pleasant manner. His flight is by starts, swift and whirring, but not far extended. When seen on the ground, which seldom happens, he performs his hopping with great care. He prefers to sit on the highest branches of a tree, uttering his lively "krick, krick, krick," which he frequently repeats. When he flies off, or alights on another tree, he utters a rather shriller cry, consisting of the same notes, quickly reiterated. For the night's rest he retires to a hollow tree, and conceals himself also in such a place when he is wounded.

It is very amusing to observe this Woodpecker at the time of mating. At that time he is peculiarly lively, and usually two males are seen paying court to one female, both flying very often above the tree, and chasing each other around it. If one gets tired of flying about, he suddenly lights on some dry withered branch, and commences drumming for spite. Then the other male begins the same operation, and this they keep up sometimes for hours. As soon as one of them observes the female, who is never far off, he leaves his place, flying toward her, and these two chase each other round and round, uttering a strong "kack, kack, kack," or "krick, krick, krick." As soon as the other male hears this he appears on the scene, and the two males now chase the female, or engage in a fight with each other. This amusement lasts till about seven or eight o'clock in the evening, and is kept up till one of them has become victorious in driving the other entirely away.

In making his nest-hole, this Woodpecker seems to be rather at a loss how to proceed. He begins a great many excavations before he finishes one, and always prefers to find, if possible, a hole in which either he or some of his kindred have already reared their young. About the middle of May the male and female begin to look out for a suitable place for their eggs and young. Some tree—generally an apple, pear, or cherry tree, often in the neighborhood of a farm-house—is usually selected for this purpose. For several days previous to beginning the operation of digging the hole, the tree is minutely examined, and then the digging is commenced by the male, who excavates a circular opening, so perfectly circular that it seems as if it must have been marked out with a pair of compasses. After he has wrought for a time, and become tired, he is relieved by the female, and so both continue the work with indefatigable diligence. The direction of the hole, if in the trunk of a tree, is usually downward, in an oblique direction, for a few inches, and then straight down for about eight or ten inches more. Within it is roomy, capacious, and as smooth as if it were made by a cabinet-maker. The entrance is just large enough to admit the passage of the owners. The chips are carried out to some distance, so as to conceal all traces of the nest. The operation of preparing the nest-hole occupies sometimes a whole week, sometimes less. The female, before beginning to lay, visits the hole often, minutely examining both the interior and exterior before taking possession. As in the case of all Woodpeckers, there is no regular nest; but a few fine sawdust-like chips are left at the bottom of the hole as a substitute for a nest, and on these the female lays, toward the latter part of May, generally six eggs, of a pure white color. The male frequently supplies the female with food while she is sitting. The young begin to make their appearance in the latter part of June, when they may be seen leaving the hole, making their way up the tree, and already climbing with great dexterity. The little House Wren, who also builds his nests in hollows in trees or cracks in walls, and who is, on account of the formation of his bill, unable to build a nest-hole for himself, often drives the Downy out of his home by the most violent attacks, and, after succeeding, builds his nest in the ill-gotten premises.

The food of this species of Woodpecker, as with all other Woodpeckers, consists chiefly of insects and their larvæ. Besides these, he regales himself with different kinds of fruits and berries; but his principal food is a kind of beetle that lays its eggs in cracks in the bark of trees, its larvæ working or boring long and winding burrows under the bark close to the wood. In order to reach these, our little Woodpecker works very hard, and on pine-trees he strips off the bark in large quantities; but he never strips it off from a healthy pine-tree, and only from such as he is sure are infested with grub-worms. He destroys an immense number of caterpillars, which he uses as food for his young. He has also this peculiarity, like others of this group of birds, that, when he has hammered or drummed on a dead limb, he will, on a sudden, run to the opposite side to look after beetles or worms, which he may have started, and

which in their turn, being aware of the close proximity of their deadliest enemy, try to save themselves by running away. Farmers and proprietors of orchards should not regard the Downy Woodpecker as a destroyer of their fruit-trees, but bestow on him a special protection, as it is certain that he picks out of fruit-trees myriads of insects or their offspring. I have observed that just such trees as had his marks or bored holes in the bark, and especially such as had the trunk on all sides marked with his holes, so that they appeared as if loads of buckshot had been fired into them from all sides, had the healthiest and thriftiest appearance of all the trees in the orchard. I also noticed that such trees were not only the heaviest laden with fruit, but that the fruit was of a better quality. In the months of September, October, and November, these Woodpeckers are seen indefatigably engaged in orchards, probing every crack and crevice, and boring through the bark in quest of the larvæ and eggs of the summer insects, chiefly so on the south and southwestern sides, the warmer sides of the tree. Of these larvæ or eggs he destroys countless numbers, that would otherwise give birth to myriads of their race in the succeeding summer, preying upon the very vitals of the tree, and destroying not only the fruit crop, but the very tree itself.

The smaller birds of the Hawk tribe are the enemies of the Downy Woodpeckers, and many of these fall a prey to the former; but the Downies generally escape their enemies by their skill in running around the tree, or by concealing themselves in cracks or holes. Their young are often destroyed by weasels or squirrels, and the latter, when they approach the nest, are attacked with lamentable outcries, for the Downy loves his young most tenderly, notwithstanding their ugly, unwieldy, and shapeless forms, and even feed them long after they are full fledged and flying about.

The Downy Woodpeckers are easily kept in cages, and become soon accustomed to the artificial food given them in addition to different seeds, fruits, and berries. They are very amusing, always living on the best terms with other small tenants of the same cage. Their cage must be rather high, and have a small trunk on which they can climb, and have a chance for boring and hammering. They must not be exposed to strong currents of air, which invariably kill them. The female is distinguished from the male in outward appearance, by having no red on the hind head, that part being white and her breast and belly being of a more dirty white color.

PLATE XXVII.

American Quail or Partridge. (*Ortyx Virginianus.*)

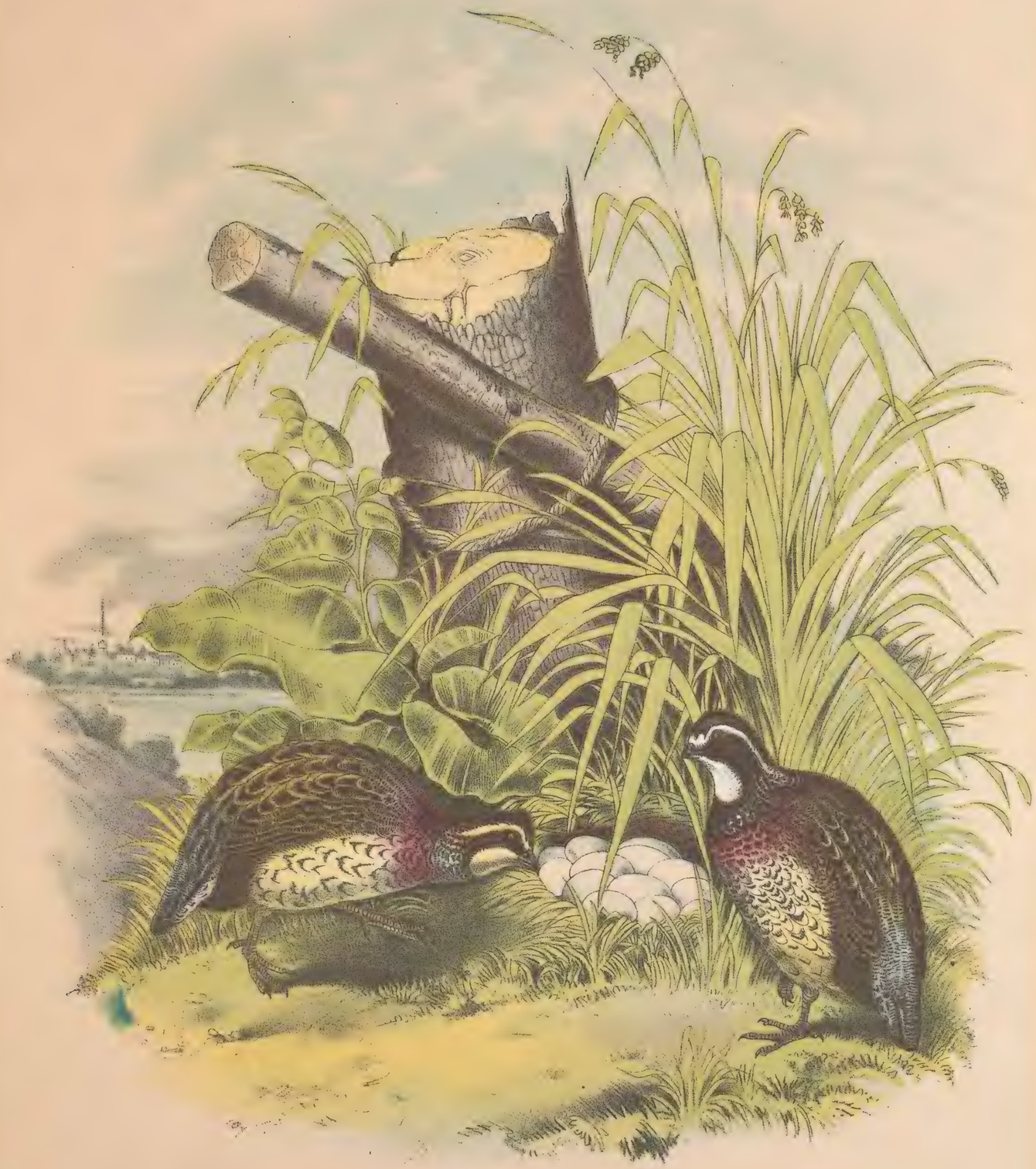
The Quail inhabits this continent as far as Nova Scotia. Its limit on the east is the Atlantic ocean, on the south the Gulf of Mexico, and on the west the Rocky Mountains. It is also found on some of the islands of the Gulf, in the warmer parts of North America. The Quail is a regular resident, but in the northern or colder portions it performs regular annual excursions toward the South on the approach of severe frosts, and these excursions sometimes assume the character of migrations. This explains why in some places Quails are sometimes found in incredibly great numbers where they have been seldom seen before.

The Quail prefers open fields, interspersed with brushwood or grass edges, and similar places, for protection. They are occasionally found in the heart of a dense forest. During the night they retire to a sheltered place on some grassy plain, or to the weedy borders of the woods, where they cluster close together. They are also found roosting on trees during the night, but this appears to be the case only exceptionally. During the day they perch on trees, and very often, when alarmed or chased by dogs, they fly to the trees and alight on the middle branches. On such occasions they may be seen to walk and run on the branches with perfect ease. They run on the ground with great dexterity and considerable elegance. Their flight is steady and rather swift, accompanied, especially at the start, with a loud whirring sound—perhaps occasioned by the shortness, concavity, and rapid motions of the wings when frightened. When flying off without being frightened, this whirring sound is only just perceptible. The voice of this bird consists of two sounds, resembling the words "Bob White," or "Bob, Bob White," sometimes uttered with an introductory bird-note, and very often repeated. The expression of tenderness is a soft twittering sound; when frightened, it is a lamentable whistling.

Quails live together in coveys or flocks from summer through the winter; but as soon as the spring opens the coveys separate, and each male chases and wins his female, but often only after hard fighting. They now begin to look out for a suitable habitation, and this makes the scene at that time very lively, for the excitement of the male is not only expressed by continuous cries, but by fighting with other males. Toward evening they may be seen on the fences, usually on the top of the posts or poles, trying to make themselves conspicuous, and, by their loud calling, to induce other males to approach them for a fight. After the fight they return to their high seats. Later, but seldom before the first of May, the female begins to build the nest. The place for the nest is chosen with great caution, and is usually hollowed out in a tussock of grass or weeds. It is curiously formed of grass-stalks and leaves, and is usually deep enough to admit the entire body of the sitting bird. As the surrounding grass grows more and more, it covers and shields the nest from intrusion, forming sometimes on that side, where the female passes in and out, a regular archway.

The eggs are roundish, the shells being thin and of a clear white color, though sometimes a little dotted with clay-colored or yellowish specks. The number of eggs varies, being sometimes twelve, sometimes twenty, and even more. Both male and female sit alternately; but, besides, the male sits as a watch. After about twenty-three days the handsome young birds break the shell and make their appearance. They are covered with a close down of a rufous color, streaked above longitudinally with buff and dark brown. The lower part, with the exception of the throat, which is yellowish, is of a grayish color. The young are able to run about as soon as they are out of the shell, but usually remain in the nest for some time. Both parents take care of them, and lead them about; both squat down to receive them, when cold or tired, under their bodies and wings. In such case the head of one parent-bird is usually turned in the direction opposite to that of the other, and, in this position, they warm their numerous brood.

When the family runs about, the male, true to his office as sentinel, can be seen running ahead of them, while the female follows in the rear, at some distance off. The male strides along with a haughty step, turning his head from side to side, and eying everything about him. Should any other bird come in his way it alarms him, and the stranger is regarded as an enemy. If he thinks he can conquer the newcomer, he attacks him and drives him off, feeling himself bound to keep the road clear. It is very interesting to see such a family of Quails. In cases of real danger, the male parent exposes himself to the enemy, while the mother-bird leads the young off, as quickly as possible, to a place of safety. In case she should be deprived of her mate, the young squat down in the grass, or find, in the low ground, some small cavity or other suitable place for concealment, while the mother tries to mislead the enemy by feigning lameness, but always managing to elude the grasp of the enemy. After she has coaxed, in this manner, the real or supposed foe to some distance away, and the young have run off to a safe hiding-place, on a sudden she rises and flies in a direction opposite to the place where her young are concealed. After all danger is over, she returns and calls her brood together again. In about three weeks the young are able to fly, and this, of course, diminishes the dangers that threaten them; for then, on the approach of an enemy, the whole family rise, and each of the young tries to reach a place of safety as soon as possible, while the parent-



birds resort to their various tricks of deception. But later, when the power of flight is more fully developed in the young, they all, including the parents, fly to the trees, if any are near, and conceal themselves in the branches.

During summer, Quails subsist chiefly on insects and different vegetable matter, and also on grain. In the fall the latter, especially Indian corn, forms their principal food. In summer, old and young lead a gay life, without any special cares; but, as soon as winter begins, they often experience bitter want, and this frequently causes them to wander to more southern regions. Many of them perish on such wanderings, as they are constantly exposed to enemies, man especially using all his skill to secure this delicious game. In the month of October, Quails settle in great numbers on the banks of the larger rivers, enlivening the woody shores and crossing daily from one side of the stream to the other. Later they appear on the roads, searching in the manure of horses for food. But when deep snow covers the road, they are driven by hunger to the neighborhood of the settlements, and even to farm-yards, where they mix with the poultry and are satisfied to pick up the crumbs they may by chance find. If the inmates of a farm-house treat them with hospitality, they will remain in the neighborhood, and their confidence will continue to grow so that sometimes single ones become more than half-domesticated.

Our Quail is wonderfully adapted for domestication, and for becoming acclimated in other countries. Captive Quails, which at the beginning were treated with a little care, soon got reconciled to their confinement, losing all their natural shyness, and getting used, in a very short time, to the hand that fed them; but such as are raised from birds already tamed become far more easily domesticated. It is said that, in New England, eggs of the Quail have been sometimes placed in the nests of domestic hens, and were hatched together with the hen's eggs. At first the young Quails behaved like the chickens, coming at the call of the hen, and entering the farm-yard and buildings; but later their wild nature got the upper hand, and they invariably flew away.

In a case that came under our notice, fifteen eggs were placed in the nest of the sitting hen, of which fourteen were hatched. The hen was put in a box with laths nailed in front, so that she could not leave the box and roam about with the young Quails; but these could run in and out as they pleased. They acted precisely as young chickens, obeying the call of the hen until nearly full grown, when, instead of going into the cage at night, they formed a close cluster outside and in front of it, and so spent the night—in regular Quail-like style. Attempts were made to get them to go to the roost with the hens, which were surprisingly successful; but when the winter was over, and the days began to grow warmer, the young Quails divided off into pairs, and one pair after another took to the fields, never to return.

At one time, a boy brought me a pair of Quails, a male and female, which he had caught in a trap. It was in the latter part of February. I made a large inclosure for them in my garden, about eight feet long by four wide and about four feet high. It was made of common lath. About the middle of May, the female made a regular nest and began to lay. After she had laid eighteen eggs, she commenced sitting, the male pretty regularly relieving her. On the twenty-third day, I observed the heads of some young ones peeping out under the breast-feathers of the hen. The next day, on coming to the inclosure, I found the hen had left the nest with her eighteen young ones following her. Every egg was hatched. At first, the young appeared more shy than common chickens are; but, as they were never suffered to be scared, they soon became quite familiar with me, the old as well as the young ones. When I attempted to put my hand under the mother bird, she became quite infuriated and bit my hand as well as she could. The young remained with the parents through the winter, and when spring came, I took the old pair and all the young except two pairs, and liberated them. I had expected some of them would return, attracted perhaps by the loud "bob, bob white" of the two pairs that were kept in the same old place, but not one of them ever returned. In due time my Quails began to mate and build nests; but it seems they became somewhat confused, and laid their eggs in one and the same nests, while the males kept up almost incessant fights with each other. To stop this, one pair was removed; the consequence was that they abandoned the nest and eggs. I removed nest and eggs, and about three weeks after, the female began to build a new nest, but in the meantime she dropped several more eggs on the ground. After she had laid her full complement, she began to sit and hatched her young. For many a year I raised my young Quails without any trouble. They roamed about the yard like other poultry, and did not seem inclined to run away.

Alexander Wilson has the following: "The Partridge has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself made the experiment, informs me, that of several hens' eggs which he substituted in place of those of the Partridge, he brought out the whole; and that for several weeks he surprised her in various parts of the plantation with her brood of chickens, on which occasions she exhibited all that distrustful alarm, and practiced her usual maneuvers for their preservation. Even after they were considerably grown and larger than the Partridge herself, she continued to lead them about; but, though their notes or call were those of common chickens, their manners had all the shyness, timidity, and alarm of young Partridges, running with great rapidity and squatting in the grass exactly in the manner of the Partridge. Soon after this they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized and well fixed in their native habits."

Hunting the Quail affords much amusement to our sportsmen, but requires no little skill. When these birds can not escape by running away, they squat, and in case of extreme danger one will spring up here and another yonder at the same time, and usually close before the feet of the sportsman, who must be a good marksman in order to bring down one or two of these quickly flying birds. The hunting becomes more difficult after the Quails have reached the woods, as they then take to the trees, where no dog can find them by the scent, and the disappointed hunter can seldom see one of them, but only hear now and then their loud whir when they fly off in the opposite direction. If the sportsman, however, understands how to imitate their call, he may be more successful, as they invariably answer the call.

The male may be considered a beautiful bird, although the coloring of his plumage is not gay. All the feathers of the upper part are reddish brown, spotted and dotted with black, and banded and seamed with a yellowish hue. Those of the lower or under side are yellowish white, streaked longitudinally with reddish brown penciled with black. A white band, beginning on the front, runs over the eye toward the hind part of the neck. The throat is snowy white and circled with a band of black, which begins before the eye, near the corner of the mouth. The white line over the eye is also banded with black, while the sides of the neck are beautifully marked with black, white, and red-brown spots. The predominant color of the upper wing-coverts are reddish brown; primaries are dark brown, their outer vane having bluish seams. The secondaries are irregularly banded with saffron; the tail feathers are sprinkled with grayish blue, with the exceptiou of the two middle ones, which are yellowish gray sprinkled with black, and the feathers of the breast have a kind of vinaceous gloss. The eye is hazel, the bill brown, and the legs grayish. The female is dis-

tinguished from the male by a duller coloring of the plumage, especially by the color of the throat, which, as well as the line over the eye, is, in her, of a loam-yellow color. The young of the first year resemble the female in color and markings, but can be easily distinguished by having their colors or markings more or less indistinct. The wing from its bend to its tip is four and a half inches, and the tail two and a half inches long.

PLATE XXVIII.

The Yellow-billed Cuckoo. (*Coccygus Americanus.*)

Fig. 1.

The Yellow-billed Cuckoo is also called the Caw Crow and Rain Crow. The latter name is probably given it on account of its being most noisy just before or after a shower of rain. The name Caw Crow it takes from the peculiar sound of its voice, which strongly resembles the words "caw, caw, caw." These it utters at first slowly, increasing in rapidity until they seem to run into each other. It is difficult to see the bird when he utters his "caw, caw, caw," as he sits at such times perfectly still, the sound seeming to come from a great distance. This Cuckoo is a solitary bird, but not very shy. He makes his appearance in Ohio, from the South, in the latter part of April, but more regularly at the beginning of May, and retires, after raising his young, about the middle of September, frequenting in the meantime the borders of solitary swamps, hedges, or apple-orchards. The European Cuckoo (*Cuculus Canorus*) never constructs its own nest or rears its own young, but simply drops its eggs into the nests of other birds, leaving to others the task of hatching and bringing up the young Cuckoos. It always drops but one egg into one and the same nest. This practice has caused the whole tribe of Cuckoos to be stigmatized as destitute of all parental affection. In truth, our Yellow-billed Cuckoo is not entirely clear of this charge, though, as a rule, it builds its own nest, hatches its own eggs, and rears its own young; yet sometimes an egg or a young one of this species is found in the nest of another, as in that of a Robin Redbreast or of a Brown Thrush. These birds which have to raise the strange foundling, seem to be very fond of it, and bestow as much parental care on it as on their own offspring.

The Yellow-billed Cuckoo is nowhere rare, and for those well-acquainted with its habits, it is not difficult to observe the bird. The pairs generally settle in the dense forests, but single ones are frequently found in the immediate neighborhood of human habitations, chiefly in orchards, where they make themselves conspicuous by their guttural "caw, caw, caw," which they utter almost incessantly for hours, especially on damp, warm days, and sometimes during the night. This Cuckoo is a regular slipper, but in nowise a runner. Among the branches of trees he moves like a Titmouse with the greatest ease, seldom coming to the ground, and, if he does so for a change, he moves about in an exceedingly awkward manner, elevating his long tail high in the air. His flight is swift and noiseless, rarely far extended, being interrupted by the first tree. He seems to feel safer in the closely leaved crowns of trees, and therefore does not like to expose himself by continuous flight. While passing among the branches on a foraging tour, he sometimes shows his upper and sometimes his under side. His food consists of insects and fruits, such as butterflies, grasshoppers, caterpillars, etc., and in the autumn, different kinds of berries. There is a strong suspicion against him that he plunders the nests of other small birds; but although I have often closely watched him, I have never caught him committing such an outrage. It is a very remarkable fact of this bird that the female begins to sit as soon as she has laid her first egg, and the consequence is that the young appear irregularly one after another, so that in the same nest may sometimes be found eggs and half-fledged and full-fledged young ones. This Cuckoo begins to pair in the early part of May. This process is usually celebrated by obstinate battles among the males. Soon after pairing, they begin to build their nests. The nest is commonly placed among the horizontal branches of an apple-tree; sometimes on a thorn, cedar, or other bush, usually in a retired part of the wood. The nest is artlessly constructed, and has hardly any cavity at all. It is composed of fine sticks and twigs, intermixed with weeds and fibers, and usually with blossoms of the maple-tree. The eggs are generally four, sometimes but three, and occasionally five. They are of a greenish-blue color, and of a size proportioned to the size of the bird. The male is usually near while the female is sitting, and gives the alarm when an enemy approaches. While the female is sitting, you can almost reach her with your hand; but then she will suddenly precipitate herself to the ground, feigning lameness, fluttering, trailing her wings—in fact, she will use all the tricks that some other birds practice, as Quails, Woodcocks, and several others. Both parents provide the food for the young.

Notwithstanding his plain colors, the Yellow-billed Cuckoo is a very handsome bird and of a fine shape. His whole upper parts are of a dark glossy-drab, or of what we may call a Quaker hue, with some greenish silken reflections; to this the inner vanes of the wing-feathers are exceptions, these being of a reddish cinnamon color. The tail is long, and usually consists of ten feathers, sometimes of twelve—the two middle ones being longest, and of the same drab color as the back, though a little darker toward the tip; the others, which gradually shorten to the outer ones, are black, largely tipped with white; the two outer feathers are hardly half as long as the middle ones. The whole lower parts are white, excepting those of the fore part of the breast and neck, which incline somewhat to a bluish-gray. The feathers covering the thighs are prolonged like those of the Hawk tribe. The legs and feet are of a light-blue color; there are four toes, two placed forward and two behind, as in all other Cuckoo birds. The bill is rather long in proportion to the size of the bird, very broad at the base and a little bent; it is of a dusky-brown color above and yellow below. The color of the iris is hazel, and the feathers reach close to the eyelid, which is yellow. The female differs but little from the male, except that the four middle feathers of the tail are of that drab color and the white on her is not so pure, while the grayish on the fore breast is darker and further extended.

The Yellow-billed Cuckoo is entitled to protection, as he destroys innumerable obnoxious larvæ and insects, and is thus a benefactor to the farmer and gardener. The inner membrane of the gizzard, which in many other species is very hard and muscular, is in this bird soft and lax, and therefore capable of great extension. It is covered with a growth of fine hair of a fawn color, and is perhaps intended by nature as a protection against the irritating effect, which would otherwise be produced by swallowing hair-covered caterpillars.

The Crested Titmouse. (*Lophophanes bicolor.*)

Fig. 2.

This noisy bird often associates with the Black-capped Titmouse, but is more suspicious and less active. Its notes are more musical, and there is more variety in its tones. At times its voice is not louder than the squeaking of a mouse, while at other times the sounds are loud and clear, resembling the whistling for a dog. It often keeps up its whistling for more than half an hour at a time, while its high-pointed crest gives it a neat and elegant appearance. Its food consists of all kinds of insects and their larvæ, as well as of small fruits and berries. As the muscles of its neck possess considerable strength, it digs almost continually into acorns, nuts,

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crevasses, and rotten bark, without the least fatigue, searching out insects or their eggs or larvæ.

This species inhabits almost the whole of North America. In the United States it is more numerous in the Middle and Western than in the Southern States. It has been noticed, in mild winters, in the southern part of Ohio. On the approach of cold, frosty weather it generally migrates toward the South. If this bird is taken hold of, by the hand, when winged, it will fight dexterously and with great spirit. In confinement, it easily becomes reconciled and familiar, and will subsist on hemp-seed, cherry-kernels, apple-seeds, and the kernels of broken hickory-nuts; but it requires a cage made altogether of wire, as it will chip its way, in true Woodpecker style, through the wooden part of ordinary cages.

The whole upper parts of the Crested Titmouse are of a dark cinereous or lead color, except the front, which is black, tinged with reddish. The whole lower parts are of a dirty white, excepting the sides under the wings, which are of a reddish-brown color. The legs and feet are light blue; the bill black, short, and pretty strong. The wing-feathers are relieved with a dusky hue on the inner vane. The eyes are dark hazel, and the lores white. The head is, as already remarked, ornamented with a high crest, pointed, and almost upright. The tail is somewhat forked, and considerably concave below, and of the same color above as the back. The tips of the wings are dusky; the tongue is very short, truncated, and ends in three—sometimes four—sharp points. The female can not be distinguished from the male by the plumage. Both male and female have the same markings, as well as the reddish brown on the sides under the wings. The nest is built in the hollow of a tree. The cavity is often dug by itself, and the nest consists of some dry fibrous roots of grass, the cast-off exuviæ of snakes, horse-hair, and feathers inside. The female begins to lay early in May. The eggs, usually five or six in number, are of a pure white, with a few small reddish spots on the larger end. The whole family may be seen, in the month of July, hunting together, the parent birds keeping up a continual chatter—perhaps to encourage and direct their inexperienced brood.

The Cardinal Grosbeak. (*Cardinalis Virginianus.*)

Fig. 3, Male. Fig. 4, Female.

This elegant bird, in his bridal dress, is beautifully but uniformly colored. His soft and slightly glossy plumage is very even dark red—highest in the head and breast. The face and throat are deep black. The inner veins of the quill-feathers are light brown, the shafts dark brown, and the bill of a coral-red color. The iris of the eye is dark hazel, and the feet brownish gray. The plumage of the female is lighter colored and less red, with a more reddish hue predominant. The head and crest are red, but the back is brownish, and the breast of a dull loam color. The front or face and throat are not black, but of a dark ash color or gray. The bill is also a little lighter coral-red.

The Cardinal is a common bird in the Southern States, and is found in great numbers in the Middle and Western States. When the winters are mild, he remains in the Middle aud Western States all the year round, but in severe winters wanders toward the South. He is a very pleasing bird, and, by his splendid colors, is an ornament to the forest, especially in winter, when his beautifully red color contrasts finely with the dull appearance of the leafless trees. In daytime he loves to roam about in shrubbery interwoven with briers and other winding plants. From such places he makes his excursions to the neighboring fields and gardens, if the forests fail to yield him sufficient food. He is just as often met with in the nighborhood of cities as in the depths of the most solitary forests. In the Southern States, he is sometimes seen in the interior cities and villages, and it is seldom that one can step into a garden in those States without seeing the "Redbird" slipping through the bushes. Wherever he is, he is welcome, for he is a pet with everybody—his beautiful plumage, his rich song, and melodious whistling giving him a ready introduction everywhere.

During the summer, the Cardinal is only found in pairs, but in fall and winter he is to be seen in small societies. He lives in harmony with most of the smaller birds, but not so with birds of his own kindred, especially during the mating and breeding season. When he remains during the winter, he often comes to the farmyard, hopping around with Sparrows, Pigeons, Snow-birds, and Buntings, and picking up seeds, examining the hedges of gardens and fields for such food. With his strong and thick bill he skillfully cracks the hard corn or husks out of the kernels of oats, and grinds the grain of wheat, and is therefore pretty certain to find subsistence during winter. He takes his nights' rest in a neighboring hay-stack or a well-sheltered tree, and so manages to outlive the otherwise fatal winter. He is a restless bird, remaining only a few minutes in the same place, but flying or hopping about in every direction. On the ground he hops tolerably well, but among the branches he moves skillfully and with perfect ease. His flight is by starts, rather hard and quick, as well as noisy, but usually not far extended. In severe winters the Cardinal emigrates, as already stated, roaming about the country, but with the beginning of March returning to his old habitation. He performs his journeys, as one might say, on foot, at least for a great part of the distance, as he hops and skips from bush to bush and from forest to forest, until he arrives at his destination. As with many other birds, the male Cardinal appears a few days earlier than the female. Soon after their arrival, they begin to mate, and the males, inspired with jealousy, commence fighting each other. They are so quarrelsome that they ferociously attack any intruder, whom they will follow from bush to bush, sometimes fighting him in the air, but never giving him any rest until he is successfully driven out of their view. They then return to their former place, expressing their joy with a loud and quavering song. The strongest attachment is found between the male and female.

Their resting-place is a bush, a tree in the neighborhood of the farm, or in the midst of a field, on the border or in the middle of a forest. The woody borders of rivers seem to be the favorite place for building their nests. The nest is often found in the immediate neighborhood of a farm, and in many instances only a few yards from that of the Mocking-bird. The nest consists of dry leaves and fine branches, especially some thorny branches, interwoven with stalks. The lining inside is made of fine dry grass. The full complement of eggs is from four to six. The color of them is a dirty white, spinkled all over with olive-brown spots; but it is curious that scarcely ever two eggs are found alike in the nest, but that they all differ in coloring as well as in their marking.

In the Middle and Western States, the Cardinal breeds but once in a season; in the Southern States, twice regularly, and sometimes three times. The young, after they are full fledged, are fed a few days more by their parents and then left to take care of themselves. Several kinds of grains, seeds, berries, and perhaps insects serve them as food. In the spring, they live on the flowers of the maple; in summer, on elder and other berries; in fall, grain and corn, and in winter, whatever they can obtain.

The Cardinal Grosbeak may be ranked among the best singing-birds of this continent. His notes are clear and loud, resembling the notes of a flageoletto at first, and gradually declining until they appear as a mere whisper. During the season of love-making they give free play to their most powerful notes. Being conscious of his great power he swells his throat and breast, spreads his tail, flaps his wings, turning alternately his head to the right and left, so as to make known to others his own ecstasy at the melodious beauty of his voice. These notes and gestures are frequently repeated, the bird during the time pausing only to take breath. The beautiful tunes of the Cardinal can be heard long before sunrise. During the heat of the day he is silent, but as soon as the heat begins to pass off, he renews his song with more vigor apparently than in the morning, and does not cease until surrounded by the shades of night.

He seems to sing for his own amusement. As soon as he suspects that he is being observed, he will stop altogether or utter a call resembling somewhat the words "dihu, dui, dui, dui, dui, dui, dui, dui, dui." When alarmed, he will utter a short "zip" or "tip."

The Cardinal Grosbeak is easily kept in cages, and is satisfied with the simplest kinds of grain. He is a hardy bird, and may be brought to breeding in captivity by giving him more freedom in a large room. It will never do to place him in a room or cage with other birds, as it appears impossible for him to keep peace with them.

PLATE XXIX.

The Passenger Pigeon. (*Ectopistes migratorius.*)

The Passenger Pigeon, or, as it is commonly called, the "Wild Pigeon," are the gypsies among birds. They are everywhere and nowhere. From Hudson's Bay down to the Gulf of Mexico, and from the Rocky Mountains to the eastern coast, and in all the States of North America, is found the Passenger Pigeon—at no time in equal numbers, generally more in number in the Eastern and Middle than in the Northern and Southern States.

Audubon and, before him, Wilson relate the most wonderful stories concerning the numbers of these Pigeons during their wanderings. We quote from Audubon as follows:

"Their great power of flight enables them to survey and pass over an astonishing extent of country in a very short time. Thus, Pigeons have been killed in the neighborhood of New York with their crops full of rice, which they must have collected in the fields of Georgia and Carolina; these districts being the nearest in which they could possibly have procured a supply of food As their power of digestion is so great, that they will decompose food entirely in twelve hours, they must, in this case, have traveled between three and four hundred miles in six hours, which shows their speed to be, at an average, about one mile in a minute. A velocity such as this, would enable one of these birds, were it so inclined, to visit the European continent in less than three days."

"In the autumn of 1813, I left my house at Henderson, on the banks of the Ohio, on my way to Louisville. In passing over the barrens, a few miles beyond Hardinsburgh, I observed the Pigeons flying from northeast to southwest in greater numbers than I thought I had ever seen them before. I traveled on, and still met more the farther I proceeded. The air was literally filled with Pigeons. The light of the noonday was obscured as by an eclipse. The dung fell in spots not unlike melting flakes of snow; and the continued buzz of the wings had a tendency to lull my senses to repose.

"Before sunset I reached Louisville, distant from Hardinsburgh fifty-five miles. The Pigeons were still passing in undiminished numbers, and continued to do so for three days in succession. The people were all in arms. The banks of the Ohio were crowded with men and boys, incessantly shooting at the pilgrims, which there flew lower as they passed the river. Multitudes were thus destroyed. For a week or more, the population fed on no other flesh than that of Pigeons. The atmosphere was, during this time, strongly impregnated with the peculiar odor which emanates from the species."

In estimating the number of these mighty flocks, and the food consumed by them daily, he adds: "Let us take a column of one mile in breadth, which is far below the average size, and suppose it passing over us at the rate of one mile per minute. This will give us a parallelogram of 180 miles by one, covering 180 square miles; and allowing two Pigeons to the square yard, we have one billion one hundred and fifteen millions one hundred and thirty-six thousand Pigeons in one flock; and as every Pigeon consumes daily fully half a pint, the quantity required to feed such a flock, must be eight millions seven hundred and twelve thousand bushels per day."

"Let us now, kind reader, inspect their place of nightly rendezvous: It was, as is always the case, in a portion of the forest where the trees were of great magnitude, and where there was little underwood. I rode through it upward of forty miles, and, crossing it at different parts, found its average breadth to be rather more than three miles. Few Pigeons were to be seen before sunset; but a great number of persons, with horses and wagons, guns and ammunition, had already established encampments on the borders. Two farmers from the vicinity of Russellsville, distant more than a hundred miles, had driven upward of three hundred hogs, to be fattened on the Pigeons which were to be slaughtered. Here and there, the people employed in plucking and salting what had already been procured, were seen sitting in the midst of large piles of these birds. The dung lay several inches deep, covering the whole extent of the roosting-place, like a bed of snow. Many trees, two feet in diameter, I observed were broken off at no great distance from the ground; and the branches of many of the largest and tallest had given way as if the forest had been swept by a tornado. Everything proved to me that the number of birds resorting to this part of the forest, must be immense beyond conception. As the period of their arrival approached, their foes anxiously prepared to seize them. Some were furnished with iron pots containing sulphur, others with torches of pine-knots, many with poles, and the rest with guns. The sun was lost to our view. yet not a Pigeon had arrived. Everything was ready, and all eyes were gazing on the clear sky, which appeared in glimpses amidst the tall trees. Suddenly there burst forth a general cry of 'Here they come!' The noise which they made, though yet distant, reminded me of a hard gale at sea, passing through the rigging of a close-reefed vessel. As the birds arrived and passed over me, I felt a current of air that surprised me. Thousands were soon knocked down by polemen. The current of birds, however, still kept increasing. The fires were lighted, and a most magnificent, as well as a wonderful and terrifying sight, presented itself. The Pigeons coming in by thousands alighted everywhere, one above another, until solid masses, as large as hogsheads, were formed on every tree, in all directions. Here and there the perches gave way under the weight with a crash, and falling to the ground, destroyed hundreds of the birds beneath, forcing down the dense groups with which every stick was loaded. It was a scene of uproar and confusion. I found it quite useless to speak, or even to shout, to those persons who were nearest me. The reports, even, of the nearest guns were seldom heard; and I knew of the firing only by seeing the shooters reloading. No one dared venture within the line of devastation; the hogs had been penned up in due time, the picking up of the dead and wounded birds being left for the next morning's employment. The Pigeons were constantly coming, and it was past midnight before I perceived a decrease in the number of those that arrived. The uproar continued, however, the whole night; and as I was anxious to know to what distance the sound reached, I sent off a man, accustomed to preambulate the forest, who, returning two hours afterward, informed me he had heard it distinctly when three miles from the spot. Toward the approach of day, the noise rather subsided; but long ere objects were at all distinguishable, the Pigeons began to move off in a direction quite different from that in which they had arrived the evening before; and at sunrise, all that were able to fly had disappeared. The howlings of the wolves now reached our ears; and the foxes, lynxes, cougars, bears, raccoons, opossums, and polecats were seen sneaking off from the spot, whilst Eagles and Hawks of different species, accompanied by a crowd of Vultures, came to supplant them, and enjoy their share of the spoil. It was then that the authors of all this devastation began their entry among the dead, the dying, and the mangled. The Pigeons were picked up and piled in heaps, until each had as many as he could possibly dispose of, when the hogs were let loose to feed on the remainder."

Now this sounds fabulous, but we will not dispute its truth, although it is not in accordance with our observations. We have in our rambles through the United States frequently met even with very large flocks, but they certainly did not reach to one-quarter the number mentioned by Audubon. Several roosts were visited at different places, but they fell considerably short of the above account, although persons with whom we conversed at these roosts fully corroborated Audubon. The immense numbers of Wild Pigeons that flew over my head toward the roost would appear almost incredible to those who have never observed it. As regards the rapidity of the flight of the Passenger Pigeons, we relate an incident that occurred in the spring of 1849, in New York city. About two dozen Wild Pigeons, who had their crops filled with rice, were shot by me, and they certainly had only early that morning fed in the rice-fields of Carolina. It was about 10:30 A. M. when they were shot, but they appeared tired, and did not show their usual shyness.

Dr. Geo. W. Hill, of Ashland, Ohio, in one of his contributions, "Recollections of Pioneer Life," to the Cincinnati *Commercial*, relates the following incident about the Wild Pigeon, the particulars for which were furnished by William A. Adams, Esq.:

"Several species of birds, formerly very numerous in this State, are becoming less abundant. The Wild Pigeon, once seen in countless millions, is not so numerous as during the period of the beech-nuts. Mr. Adams, in 1806, witnessed at Marietta, Ohio, a flight of pigeons so remarkable that the school children were dismissed to see the wonderful sight. They were actually so numerous as to obscure the light of the sun like a cloud. This continued for some time. The sand-bar at the foot of the island above Marietta contained about fifty acres of land. Far above the island the birds checked their flight, and began to descend upon the bar in a dense mass. The descent, at a distance, appeared like an inverted cone, or an enormous water-spout, as an old sailor describes it. The birds apparently came down to the bar for water and sand. They crowded the shore, and dipped their beaks into the water, and took to the air again, and continued their flight. The whole town turned out to witness the novel spectacle, and many persons hastened to the sand-bar, and large numbers of the birds were killed with sticks. Their crops were supplied with small gravel and sand. Their roosts were equally strange. They came together from all quarters in such numbers that it was dangerous for man or animal to venture beneath their roost. The noise of their wings, their fluttering, and the cracking of timber beneath their weight, kept up a constant roar, not unlike the sound of battle at a distance. There is a tract of land in the northwest part of Muskingum county, formerly called 'Dennison's Plains,' rich and rolling, but destitute of timber. There was full proof that the timber on that land had once been a pigeon-roost, and had been broken down and destroyed by the weight of the pigeons. This was confirmed by some Indians who were on the land about 1813. The nestings of these birds were equally strange and curious. The nests were fixed on the top of horizontal limbs, and sometimes from fifty to one hundred were placed thereon. Here the young were hatched. When partially grown, their weight would frequently crush the limb, and vast numbers of squabs would fall down to become the prey of hawks, owls, foxes, men, and boys. The young squabs were fat, and esteemed a luxury for the table."

The following additional account of this remarkable bird is taken from the work entitled "Wilson's American Ornithology," Thomas M. Brewer, editor:

"The Wild Pigeon of the United States inhabits a wide and extensive region of North America, on the side of the great Stony Mountains, beyond which, to the westward, I have not heard of their being seen. According to Mr. Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of the juniper. They spread over the whole of Canada; were seen by Captain Lewis and his party near the Great Falls of the Missouri, upward of 2,500 miles from its mouth, reckoning the meanderings of the river; were also met with in the interior of Louisiana by Colonel Pike, and extend their range as far south as the Gulf of Mexico, occasionally visiting or breeding in almost every quarter of the United States.

"But the most remarkable characteristic of these birds is their associating together, both in their migrations and also during the period of incubation, in such prodigious numbers as almost to surpass belief, and which has no parallel among any other of the feathered tribes on the face of the earth with which naturalists are acquainted. These migrations appear to be undertaken rather in quest of food than merely to avoid the cold of the climate, since we find them lingering in the northern regions, around Hudson's Bay, so late as December, and since their appearance is so casual and irregular, sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genesee country, often in Pennsylvania, and also in various parts of Virginia, with amazement; but all I had then seen of them were mere straggling parties when compared with the congregated millions which I have since beheld in our Western forests, in the States of Ohio, Kentucky, and the Indian Territory. These fertile and extensive regions abound with the nutritious beech-nut, which constitutes the chief food of the Wild Pigeon. In seasons when these nuts are abundant, corresponding multitudes of pigeons may be confidently expected. It sometimes happens that, having consumed the whole produce of the beech-trees in an extensive district, they discover another at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or, as it is usually called, the roosting-place. These roosting-places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung; all the tender grass and underwood destroyed; the surface strewed with large limbs of trees, broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an ax. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out where, for several years after, scarcely a single vegetable made its appearance.

"When these roosts are discovered, the inhabitants, from considerable distances, visit them in the night with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours they fill many sacks, and load their horses with them. By the Indians, a pigeon-roost, or breeding-place, is considered an important source of national profit and dependence for that season, and all their active ingenuity is exercised on the occasion. The breeding-place differs from the former in its greater extent. In the Western countries above mentioned, these are generally in beech-woods, and often extend, in nearly a straight line, across the country for a great way. Not far from Shelbyville, in the State of Kentucky, about five years ago, there was one of these breeding-places, which stretched through the woods in nearly a north and south direction. It was several miles in breadth, and was said to be upward of forty miles in extent. In this tract, almost every tree was furnished with nests, wherever the branches could accommodate them. The Pigeons made their first appearance there about the 10th of April, and left it altogether, with their young, before the 25th of May.

"As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking-utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me that the noise in the woods was so great as

to terrify their horses, and that it was difficult for one person to hear another speak without bawling in his ear. The ground was strewed with broken limbs of trees, eggs, and young squab Pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, Buzzards, and Eagles were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while from twenty feet upward to the tops of the trees, the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of Pigeons, their wings roaring like thunder, mingled with the frequent crash of falling timber; for now the ax-men were at work, cutting down those trees that seemed to be most crowded with nests, and continued to fell them in such a manner that, in their descent, they might bring down several others; by which means the falling of one large tree sometimes murdered two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees, upward of one hundred nests were found, each containing *one* young only—a circumstance, in the history of this bird, not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which, in their descent, often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the Pigeons.

"These circumstances were related to me by many of the most respectable people of the community in that quarter, and were confirmed in part by what I myself witnessed. I passed for several miles through this same breeding-place, when every tree was spotted with nests, the remains of those above described. In many instances I counted upward of ninety nests on a single tree; but the Pigeons had abandoned this place for another, sixty or eighty miles off, toward Green river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing overhead to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the Pigeons, every morning a little before sunrise, set out for the Indian Territory, the nearest part of which was about sixty miles distant. Many of these returned before ten o'clock, and the great body generally appeared, on their return, a little after noon.

"I had left the public road to visit the remains of the breeding-place near Shelbyville, and was traversing the woods with my gun, on my way to Frankfort, when, about one o'clock, the Pigeons, which I had observed flying the greater part of the morning northerly, began to return in such immense numbers as I never before had witnessed. Coming to an opening by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying, with great steadiness and rapidity, at a height beyond gunshot, in several strata deep, and so close together that, could shot have reached them, one discharge could not have failed to bring down several individuals. From right to left, far as the eye could reach, the breadth of this vast procession extended, seeming everywhere equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half-past one. I sat for more than an hour, but instead of a dimunition of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this, I observed them, in large bodies, that continued to pass for six or eight minutes, and then again were followed by other detached bodies, all moving in the same southeast direction, till after six in the evening. The great breadth of front which this mighty multitude preserved would seem to intimate a corresponding breadth of their breeding-place, which, by several gentlemen who had lately passed through part of it, was stated to me at several miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the 17th of April, forty-nine miles beyond Danville, and not far from Green river, I crossed this same breeding-place, where the nests, for more than three miles, spotted every tree. The leaves not being yet out, I had a fair prospect of them, and was really astonished at their numbers. A few bodies of Pigeons lingered yet in different parts of the woods, the roaring of whose wings was heard in various quarters around me.

"All accounts agree in stating that each nest contains only one young squab. These are so extremely fat that the Indians, and many of the whites, are accustomed to melt down the fat for domestic purposes, as a substitute for butter and lard. At the time they leave the nest, they are nearly as heavy as the old one, but become much leaner after they are turned out to shift for themselves.

"It is universally asserted in the Western countries, that the Pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season: the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during the period when acorns, beech-nuts, etc., are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone—buckwheat, hempseed, Indian corn, hollyberrries, blackberries, huckleberries, and many others, furnish them with abundance at almost all seasons. The acorns of the live-oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest plantation. The vast quantity of mast which these multitudes consume is a serious loss to the bears, pigs, squirrels, and other dependents on the fruits of the forest. I have taken from the crop of a single Wild Pigeon a good handful of the kernels of beech-nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indian Territory: If we suppose this column to have been one mile in breadth (and I believe it to have been much more), and that it moved at the rate of one mile in a minute, four hours, the time it continued passing, would make its whole length two hundred and forty miles. Again, supposing that each square yard of this moving body comprehended three Pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty million two hundred and seventy-two thousand Pigeons—an almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate would equal seventeen million four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight and a disposition to range over vast uncultivated tracts of the earth; otherwise they must have perished in the districts where they resided, or devoured the whole productions of agriculture, as well as those of the forests.

"A few observations on the mode of the flight of these birds must not be omitted. The appearance of large detached bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio by myself, in the month of February, I often rested on my oars to contemplate their aerial maneuvers. A column, eight or ten miles in length, would appear from Kentucky, high in the air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course until it formed a large bend of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight; so that the whole, with its glittering undulations, marked a span on the face of the

heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its indentures until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other, as they happened to approach, with such ease and elegance of evolution, forming new figures, and varying them as they united or separated, that I never was tired of contemplating them. Sometimes a Hawk would make a sweep on a particular part of the column from a great height, when, almost as quick as lightning, that part shot downward out of the common track; but, soon rising again, continued advancing at the same height as before. This inflection was continued by those behind, who, on arriving at this point, dived down almost perpendicularly to a great depth, and, rising, followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

"Happening to go ashore one charming afternoon to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado about to overwhelm the house and everything around in destruction. The people, observing my surprise, cooly said, 'It is only the Pigeons;' and on running out, I beheld a flock, thirty or forty yards in width, sweeping along very low between the house and the mountain, or height, that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing so as to pass over the mountain, behind which they disappeared before the rear came up.

"In the Atlantic States, though they never appear in such unparalleled numbers, they are sometimes very numerous, and great havoc is then made among them with the gun, the clap-net, and various other implements of destruction. As soon as it is ascertained in a town that the Pigeons are flying numerously in the neighborhood, the gunners rise *en masse;* the clap-nets are spread out on suitable situations, commonly on an open height in an old buckwheat-field; four or five live Pigeons, with their eyelids sewed up, are fastened on a movable stick; a small hut of branches is fitted up for the fowler at the distance of forty or fifty yards. By the pulling of a string, the stick on which the Pigeon rests, is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting. This being perceived by the passing flocks, they descend with great rapidity, and, finding corn, buckwheat, etc., strewed about, begin to feed, and are instantly, by the pulling of a cord, covered by the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides from morning to night. Wagon-loads of them are poured into market, and Pigeons become the order of the day at dinner, breakfast, and supper, until the very name becomes sickening. When they have been kept alive and fed for some time on corn and buckwheat, their flesh acquires great superiority; but in their common state they are dry and blackish, and far inferior to the full-grown young ones, or squabs.

"The nest of the Wild Pigeon is formed of a few dry, slender twigs, carelessly put together, and with so little concavity that the young one, when half-grown, can easily be seen from below. The eggs are pure white. Great numbers of Hawks, and sometimes the Bald Eagle himself, hover about these breeding-places, and seize the old or the young from the nest amid the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods, where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them are shot while in this situation. A person told me that he once rode furiously into one of these rolling multitudes, and picked up thirteen Pigeons which had been trampled to death by his horse's feet. In a few minutes they will beat the whole nuts from a tree with their wings, while all is a scramble, both above and below, for the same. They have the same cooing-notes common to domestic Pigeons, but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others, they will be mostly females; and again, great multitudes of males, with few or no females. I can not account for this in any other way than that, during the time of incubation, the males are exclusively engaged in procuring food, both for themselves and their mates; and the young, being unable yet to undertake these extensive excursions, associate together accordingly. But, even in winter, I know of several species of birds who separate in this manner, particularly the Red-winged Starling, among whom thousands of old males may be found, with few or no young or females along with them.

"Stragglers from these immense armies settle in almost every part of the country, particularly among the beech-woods and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr. Pennant informs us that they breed near Moose Fort, at Hudson's Bay, in N. lat. 51°; and I myself have seen the remains of a large breeding-place as far south as the country of the Choctaws, in lat. 32°. In the former of these places they are said to remain until December, from which circumstance it is evident that they are not regular in their migrations, like many other species, but rove about as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighborhood of Philadelphia; but it is only once in several years that they appear in such formidable bodies, and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, etc., abundant.

"The Passenger Pigeon is sixteen inches long and twenty-four inches in extent; bill black; nostril covered by a high rounding protuberance; eye, brilliant fiery orange; orbit, or space surrounding it, purplish flesh-colored skin; head, upper part of the neck, and chin, a fine slate-blue, highest on the chin; throat, breast, and sides, as far as the thighs, a reddish-hazel; lower part of the neck and sides of the same, resplendent changeable gold, green, and purplish crimson, the latter most predominant; the ground color, slate (the plumage of this part is of a peculiar structure, ragged at the ends); belly and vent, white; lower part of the breast, fading into a pale, vivacious red; thighs, the same; legs and feet, lake, seamed with white; back rump and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black; the scapulars tinged with brown; greater coverts, light slate; primaries and secondaries, dull black, the former tipped and edged with brownish white; tail, long and greatly cuniform, all the feathers tapering toward the point—the two middle ones plain, deep black, and the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, when each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous; primaries, edged with white; bastard wing, black.

"The female is about half an inch shorter, and an inch less in extent; breast, cinereous brown; upper part of the neck inclining to ash; the spot of changeable gold, green, and carmine, much less, and not so brilliant; tail-coverts, brownish slate; naked orbits, slate-colored; in all other respects like the male in color, but less vivid, and more tinged with brown; the eye not so brilliant an orange. In both, the tail has only twelve feathers."

The following account is taken from "Nuttall's Ornithology:"

"The Wild Pigeon of America, so wonderful for its gregarious habits, is met with, more or less according to circumstances, from Mexico to Hudson's Bay, in which inhospitable region they are even seen in December weathering the severity of the climate with indifference, and supporting themselves upon the meager buds of the juniper when the ground is hidden by inundating snows. In the west they are found to the base of the northern Andes or Rocky Mountains, but do not appear to be known beyond this natural barrier to their devious wanderings. As might be supposed from its extraordinary history, it is found with peculiar strength of wing, moving through the air with extreme rapidity, urging its flight also by quick and very muscular strokes. During the season of amorous dress it often flies out in numerous hovering circles; and while thus engaged, the tips of the great wing feathers are heard to strike against each other, so as to produce a very audible sound.

"The almost incredible and unparalleled associations which the species form with each other appear to have no relation with the usual motives to migration among other birds. A general and mutual attachment seems to occasion this congregating propensity. Nearly the whole species, which at any one time inhabit the continent, are found together in the same place. They do not fly from climate, as they are capable of enduring its severity and extremes. They are even found to breed in the latitude of 51 degrees, round Hudson's Bay, and the interior of New Hampshire, as well as in the 32d degree in the dense forests of the great valley of the Mississippi. The accidental situation of their food alone directs all their movements. While this continues to be supplied, they sometimes remain sedentary in a particular district, as in the dense forests of Kentucky, where the great body remained for years in succession, and were scarcely elsewhere to be found; and here, at length, when the mast happened to fail, they disappeared for several years.

"The rapidity of flight, so necessary in their vast domestic movements, is sufficiently remarkable. The Pigeons killed near the city of New York have been found with their crops full of rice, collected in the plantations of Georgia or Carolina; and as this kind of food is digested by them entirely in twelve hours, they must have traveled probably three or four hundred miles in about half of that time, or have sped at the rate of a mile a minute. With a velocity like this, our Pigeon might visit the shores of Europe in less than three days; and, in fact, according to Flemming, a straggler was actually shot in Scotland in the winter of 1825. Associated with this rapidity of flight must also be the extent and acuteness of their vision, or otherwise the object of their motions would be nugatory: so that, while thus darting over the country almost with the velocity of thought, they still keep up a strict survey for their fare; and, in passing over a sterile region, sail high in the air with a widely extended front, but instantly drop their flight at the prospect of food, flying low till they alight near an ample supply.

"The associated numbers of Wild Pigeons, the numerous flocks which compose the general swarm, are without any other parallel in the history of the feathered race; they can, indeed, alone be compared to the finny shoals of herrings, which, descending from the arctic regions, discolor and fill the ocean to the extent of mighty kingdoms. To talk of hundreds of millions of individuals of the same species habitually associated in feeding, roosting, and breeding, without any regard to climate or season as an operating cause in their gregarious movements, would at first appear to be wholly incredible, if not borne out by the numerous testimony of all the inhabitants of the neighboring districts. The approach of the mighty feathered army with a loud rushing roar and a stirring breeze, attended by a sudden darkness, might be mistaken for a fearful tornado about to overwhelm the face of nature. For several hours together, the vast host, extending some miles in breadth, still continues to pass in flocks without diminution. The whole air is filled with them; their muting resembles a shower of sleet, and they shut out the light as if it were an eclipse. At the approach of the Hawk, their sublime and beautiful aerial evolutions are disturbed like the ruffling squall extending over the placid ocean; as a thundering torrent they rush together in a concentrating mass, and, heaving in undulating and glittering sweeps toward the earth, at length again proceed in lofty meanders, like the rushing of a mighty animated river. The evolutions of the feeding Pigeons, as they circle round, are both beautiful and amusing. Alighting, they industriously search through the withered leaves for their favorite mast. Those behind are continually rising and passing forward in front in such rapid succession that the whole flock, still circling over the ground, seem yet on the wing. As the sun begins to decline, they depart in a body for the general roost, which is often hundreds of miles distant, and is generally chosen in the tallest and thickest forests almost divested of underwood.

"Nothing can exceed the waste and desolation of these nocturnal resorts; the vegetation becomes buried by their excrements to the depth of several inches. The tall trees, for thousands of acres, are completely killed, and the ground strewed with mossy branches torn down by the clustering weight of the birds which have rested upon them. The whole region for several years presents a continued scene of devastation, as if swept by the resistless blast of a whirlwind."

The migrations of the Passenger Pigeon seem to be undertaken more in search of better feeding-places than of a desire to avoid cold climates. They are found in the northern part of this continent as late as December and January. Their appearance is casual and irregular, like the Crossbills; they visit districts for several consecutive years regular and in large numbers, and then for a time there is not a single pair of them to be seen. Almost every year large flocks of the Passenger Pigeon can be seen in the several parts of North America, but they are only straggling parties. The large flocks are mostly seen in the Western States, where there is an abundance of food. As a general thing, it creates considerable excitement among the people when a Pigeon-roost is discovered. Parties will come a great distance, armed with any kind of a gun or shooting-arm, to enjoy the sport and procure their part of the spoils. Toward night, when the birds return to the roost from their feeding-places, the shooting commences, the sportsman selecting his ground for his particular shooting-place. The Pigeons that are not wounded so as to drop down, fly off soon after the discharge by the gunner; and before the hunter has reloaded his field-piece, others have taken the place, and the shooting is repeated as long as there is light to attend to the guns. Collections are usually made in the morning, the supply generally being sufficient for all.

A curious circumstance regarding these birds is, that in a single tree I found sixty-two nests, and by far the most nests contained but one young Pigeon. Whenever there are two young squabs in the same nest, they are invariably a pair—male and female. The breeding-place of the Passenger Pigeon is always chosen with good judgment, usually a high-timbered forest, where there is an abundance of beech-nuts and acorns, and where water is not far distant. The highest trees are selected to build their nests in. The voice of the bird at this interesting time is soft, resembling the words "coo, coo, coo," while at other times they will utter a quick "ki, ki, ki." The male shows at this time a proud carriage, and follows his chosen female, on the ground as on the branches, with spread tail and hanging wing, which he seems to drag after him. The body is carried in a more perpendicular position, the head being pressed forward; his eyes sparkle; he utters his "coo, coo, coo," lifting now and then his dropping wings, and flies a few yards forward, returning to his beloved female with caresses, and feeding her from his crop. After these preludes they commence to build the nest. This consists of a few dry twigs in the fork of a branch, and is very loosely put together, single trees containing from fifty to a hundred nests. The eggs which the nest contains

are much rounded and pure white, the full complement being two to a nest. While the female sits, she is fed by the male, who during this time shows great care and tenderness for his mate. The young are fed by both parents until they are able to take care of themselves, after which they leave their parents and begin to wander.

The flesh of the Wild Pigeon is in no great esteem, it being rather dry and of a very dark color, although when kept in cages and fed on corn and buckwheat for some time, their flesh acquires great superiority.

In captivity, the Passenger Pigeon is easily kept for a number of years, and readily propagate. There is no zoological garden where this species is wanting.

PLATE XXX.

The Red-tailed Hawk. (*Buteo Borealis.*)

The Red-tailed Hawk is an inhabitant of a large extent of territory of this continent, but is mostly found from Upper Canada down the whole of the Atlantic coast to the Gulf of Mexico, and is occasionally met with in the Rocky Mountains. The Red-tailed Hawk is not so numerous as some other large Hawks that are found in North America. In winter, it chiefly frequents low, swampy grounds covered by willows, in which four or five of this species may be found eagerly watching on an old stump of a willow for small quadrupeds, frogs, etc., which usually form part of their food. This bird of prey will also, when a good opportunity offers, attack poultry, by singling out a chicken, and, sweeping low and swiftly over it, grasp it with its tallows, and bear it off toward the woods for food. Unlike others of his kindred, chicken-hunting is not a regular occupation of this bird; it is only occasionally, and then by surprising a stray one.

Wilson says:* "I am sorry to say"—describing his figures—"are almost all I have to give toward elucidating their history. Birds, naturally thinly dispersed over a vast extent of country; retiring during summer to the depth of the forests to breed; approaching the habitations of man, like other thieves and plunderers, with shy and cautious jealousy; seldom permitting a near advance; subject to great changes of plumage; and, since the decline of falconry, seldom or never domesticated—offer to those who wish eagerly to investigate their history, and to delineate their particular character and manners, great and insurmountable difficulties. Little more can be done in such cases than to identify the species, and trace it through the various quarters of the world where it has been certainly met with. The Red-tailed Hawk is most frequently seen in the lower parts of Pennsylvania during the severity of winter. Among the extensive meadows that border the Schuylkill and Delaware, below Philadelphia, where flocks of Larks (*Alauda magna*) and mice and moles are in great abundance, many individuals of this Hawk spend the greater part of the winter. Others prowl around the plantations, looking out for vagrant chickens; their method of seizing which is by sweeping swiftly over the spot, and, grappling them with their talons, bear them away to the woods.

"This species inhabits the whole of the United States, and, I believe, is not migratory, as I found it, in the month of May, as far south as Fort Adams, in the Mississippi territory. The young were, at that time, nearly as large as their parents, and were very clamorous, making an incessant squealing noise. One which I shot contained in his stomach mingled fragments of frogs and lizards."

Thomas Nuttall, A. M., F. L. S., etc., in his "Manual of the Ornithology of the United States and of Canada," gives the following interesting description of the Red-tailed Hawk or Buzzard:

"This beautiful Buzzard inhabits most parts of the United States, being observed from Canada to Florida; also, far westward up the Missouri, and even on the coasts of the Northern Pacific ocean. . . . The young birds soon become very submissive, and allow themselves to be handled with impunity by those who feed them. The older birds sometimes contest with each other in the air about their prey, and nearly or wholly descend to the earth grappled in each other's talons. Though this species has the general aspect of the Buzzard, its manners are very similar to those of the Goshawk. It is equally fierce and predatory, prowling around the farm often when straitened for food, and seizing now and then a hen or chicken, which it snatches by making a lateral approach. It sweeps along near the surface of the ground, and, grasping the prey in his talons, bears it away to devour in some place of security These depredations on the farm-yard happen, however, only in the winter. At all other seasons this is one of the shyest and most difficult birds to approach. They will at times pounce upon rabbits and considerable sized birds, particularly Larks, and have been observed in the Southern States perseveringly to pursue squirrels from bough to bough until they are overtaken and seized in their talons. They are frequently seen near wet meadows, where mice, moles, and frogs are prevalent, and also feed upon lizards, appearing, indeed, often content with the most humble game.

"They usually associate in pairs, and seem much attached to each other; yet they often find it convenient and profitable to separate in hunting their prey, about which they would readily quarrel if brought into contact. Though a good deal of their time passes in indolence, while perched in some tall and deadened tree, yet at others they may be seen beating the ground as they fly over it in all directions in quest of game. On some occasions they amuse themselves by ascending to a vast elevation, like the aspiring Eagle. On a fine evening, about the middle of January, in South Carolina, I observed one of these birds leave its withered perch, and, soaring aloft over the wild landscape in a mood of contemplation, begin to ascend toward the thin skirting of elevated clouds above him. At length he passed this sublime boundary, and was now perceived and soon followed by his ambitious mate; and in a little time, by circular ascending gyrations, they both disappeared in the clear azure of the heavens; and though I waited for their reappearance half an hour, they still continued to be wholly invisible. This amusement, or predilection for the cooler regions of the atmosphere, seems more or less common to all the rapacious birds. In numerous instances, this exercise must be wholly independent of the inclination for surveying their prey, as few of them besides the Falcon descend direct upon their quarry. Many, as well as the present species, when on the prowl, fly near to the surface of the ground, and often wait and watch so as to steal upon their victims before they can take the alarm. Indeed, the Condor frequents and rests upon the summit of the Andes, above which they are seen to soar in the boundless ocean of space, enjoying the invigorating and rarified atmosphere, and only descending to the plains when impelled by the cravings of hunger."

The nest of this species is built early in March, in the fork of a tree, pretty high from the ground, and is composed of sticks, stalks of rushes, etc., and is lined inside with some fibers, dry rushes, and dry grass, and contains two, and sometimes three, dirty-white eggs, with a coarsely grained shell, and of a rather proportionally large size. The young are at first covered with a soft white down, and have a peculiarly clumsy appearance. They soon develop, and become able to support themselves.

In color, the young of this bird are different for the first season, which has frequently caused some Ornithologists to class them as a separate species, under the name White-breasted Hawk, or American Buzzard (*Falco leverianus*). The general appearance of the bird indicates that it is no other than the young of

* Page 450.

the Red-tailed Hawk. In the old bird, it is often found that a difference of their colorings exist. For instance, on some the tail is slightly barred with darker color, and also sprinkled over with fine spots of darker color toward the tip; on others, the tail has only, toward the tip, one single darker bar, and on others, the whole of the under side is white. These differences are undoubtedly the result of age. The full-grown male and female are nearly alike in their colors. The male bird is about two inches shorter than the female, the length of the Red-tailed Hawk being about twenty to twenty-two inches.

The coloring of the young of this species is as follows: Cere, pale green; bill, pale blue, black at the point; eye, light amber or straw color; eyebrow, projecting; head, broad, flat, and rather large; upper part of the head, sides of the neck, and back, brown, streaked and seamed with white; scapulary and wing coverts, spotted with white; quill-feathers, blackish; tail coverts, white, handsomely barred with yellowish brown; tail, somewhat rounded, light brown, or varying to a sorrel color, crossed with nine or ten dark bars, and tipped with white; wings, brown, and barred with dusky; the inner vanes are nearly all white, thinly marked with minute dots of nut color, less bright yellow-feathered half-way down; belly, broadly spotted with black, or deep brown; the tips of the wings reach down to within three inches of the tip of the tail.

Plate XXX. gives a correct representation of the colorings of the full-grown male and female Red-tailed Hawk.

PLATE XXXI.

The Kingbird, or Tyrant Fly-catcher. (*Tyrannus Carolinensus.*)

Fig. 1, Male. Fig. 2, Female.

Nuttall says:

"This well-known, remarkable, and pugnacious bird takes up his summer residence in all the intermediate region from the temperate parts of Mexico to the uninhabited and remote interior of Canada, being seen by Mr. Say at Pembina, latitude 49 degrees, and by Dr. Richardson, in the 57th parallel. In all this vast geographical range, the Kingbird seeks his food and rears his young. According to Audubon, they appear in Louisiana by the middle of March, and about the 20th of April, Wilson remarked their arrival in Pennsylvania in small parties of five or six, but they are seldom seen in this part of New England before the middle of May. They are now silent and peaceable, until they begin to pair and form their nests, which takes place from the first to the last week in May, or early in June, according to the advancement of the season in the latitudes of 40 and 43 degrees. The nest is usually built in the orchard, on the horizontal branch of an apple or pear tree, and sometimes in an oak, in the adjoining forest, at various heights from the ground, seldom carefully concealed, and firmly fixed at the bottom to the supporting twig of the branch. The outside consists of coarse stalks of dead grass and wiry weeds, the whole well connected and bedded with cut-weed (*Gnaphalium plantagineum*) down, tow, or an occasional rope-yarn and wool; it is then lined with dry, slender grass, root fibers, and horse-hair. The eggs are generally three to five, yellowish white, and marked with a few large, well-defined spots of deep and bright brown. They often build and hatch twice in the season.

"The Kingbird has no song, only a shrill guttural twitter, somewhat like that of the Martin, but no way musical. At times, as he sits watching his prey, he calls to his mate with a harsh tshéüp, rather quickly pronounced, and attended with some action. As insects approach him, or as he darts after them, the snapping of his bill is heard, like the snapping of a watch-case, and is the certain grave of his prey. Beetles, grasshoppers, crickets, and winged insects of all descriptions form his principal summer food. I have also seen them collecting the canker-worms from the elm. Toward autumn, as various kinds of berries ripen, they constitute a very considerable and favorite part of his subsistence. But with the exception of currants (of which he only eats perhaps when confined), he refuses all exotic productions, contenting himself with blackberries, whortleberries, those of the sassafras, cornel, viburnum, elder, poke, and five-leaved ivy (*Cissus hederacea*). Raisins, foreign currants, grapes, cherries, peaches, peas, and apples were never even tasted, when offered to a bird of this kind, which I had many months as my pensioner; of the last, when roasted, sometimes, however, a few mouthfuls were relished, in the absence of other more agreeable diet. Berries he always swallowed whole; grasshoppers, if too large, were pounded and broken on the floor, as he held them in his bill. To manage the larger beetles was not so easy. These he struck repeatedly against the ground, and then turned them from side to side, by throwing them dexterously into the air, after the manner of the Toucan, and the insect was uniformly caught reversed, as it descended, with the agility of a practiced cup-and-ball player. At length the pieces of the beetle were swallowed, and he remained still to digest his morsel, tasting it distinctly soon after it entered his stomach, as became obvious by the ruminating motion of his mandibles. When the soluble portion was taken up, large pellets of the indigestible legs, wings, and shell, as likewise the skins and seeds of berries, were, in half an hour or less, brought up, and ejected from the mouth, in the manner of the Hawks and Owls. When other food failed, he appeared very well satisfied with fresh minced-meat, and drank water frequently, even during the severe frosts of January, which he endured without much difficulty, basking, however, like Diogenes, in the feeble beams of the sun, which he followed round the room of his confinement, well satisfied when no intruder or companion threw him into the shade. Some very cold evenings he had the sagacity to retire under the shelter of a depending bed-quilt; was very much pleased with the warmth and brilliancy of lamp-light, and would eat freely at any hour of the night. Unacquainted with the deceptive nature of shadows, he sometimes snatched at them for the substances they resembled. Unlike the *Vieros*, he retired to rest without hiding his head in the wing, and was extremely watchful, though not abroad till after sunrise. His taciturnity and disinclination to friendship and familiarity in confinement were striking traits. His restless, quick, and side-glancing eye enabled him to follow the motions of his flying insect prey, and to ascertain precisely the infallible instant of attack. He readily caught morsels of food in his bill before they reached the ground, when thrown across the room, and, on these occasions, seemed pleased with making the necessary exertions. He had also a practice of cautiously stretching out his neck, like a snake, and peeping about, either to obtain sight of his food, to watch any approach of danger, or to examine anything that appeared strange. At length we became so well acquainted, that when very hungry he would express his gratitude on being fed, by a shrill twitter, and a lively look, which was the more remarkable, as at nearly all other times he was entirely silent.

"In a natural state, he takes his station on the top of an apple-tree, a stake, or a tall weed, and, betwixt the amusement of his squeaking twitter, employs himself in darting after his insect food. Occasionally he is seen hovering over the field, with beating wing, almost like a Hawk, surveying the ground or herbage for grasshoppers, which are a favorite diet. At other times they may be observed in small companies, flickering over still waters, in the same employment—the gratification of appetite. Now and then, during the heat of summer, they are seen to dip and bathe in the watery mirror, and with this wash-

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ing, drying, and pluming they appear to be both gratified and amused. During the season of their sojourn, the pair are often seen moving about in company, with a rapid quivering of the wings, and a continued tremulous shrieking twitter. Their energetic and amusing motions are most commonly performed in warm and fine weather, and continue, with little interruption, until toward the close of August.

"One of the most remarkable traits in the character of the Kingbird is the courage and affection which he displays for his mate and young; for, on his first arrival, he is rather timid, and readily dodges before the Swallow and Purple Martin. Indeed, at this season, I have seen the Spotted Sandpiper (*Totanus macularius*) drive away a pair of Kingbirds, because they happened to approach the premises of her nest. But he now becomes, on this important occasion, so tenacious of his rights as readily to commence the attack against all his feathered enemies, and he passes several months of the summer in a scene of almost perpetual contest, and, not overrating his hostile powers, he generally finds means to come off with impunity. Eagles, Hawks, Crows, Jays, and, in short, every bird which excites his suspicion by their intentional or accidental approach, are attacked with skill and courage. He dives upon the heads and backs of the larger intruders, who become so annoyed and tormented as willingly to make a precipitate retreat. He pursues his foes sometimes for a mile, and at length, assured of conquest, he returns to his prominent watchground, again quivering his wings in gratulation, and rapidly uttering his shrill and triumphant notes. He is, therefore, the friend of the farmer, as the scourge of the pilferers and plunderers of his crop and barn-yard. But, that he might not be perfectly harmless, he has sometimes a propensity for feeding on the valuable tenants of the bee-hive; for these he watches, and exultingly twitters at the prospect of success, as they wing their way, engaged in busy employment. His quick-sighted eyes now follow them, until one, more suitable than the rest, becomes his favorite mark. This selected victim is by some farmers believed to be a drone, rather than the stinging neutral worker. The selective discernment of the eyes of this bird has often amused me: berries of different kinds held to my domestic Kingbird, however similar, were rejected or snatched, as they suited his instinct, with the nicest discrimination.

"As the young acquire strength for their distant journey, they may be seen, in August and September, assembled together, in almost silent, greedy, and watchful parties of a dozen or more, feeding on various berries, particularly those of the sassafras and cornel, from which they sometimes drive away smaller birds, and likewise spar and chase each other as the supply diminishes. Indeed, my domestic allowed no other bird to live in peace near him; when feeding on similar food, and though lame of a wing, he often watched his opportunity for reprisal and revenge, and became so jealous, that, instead of being amused by companions, sometimes he caught hold of them with his bill, and seemed inclined to destroy them for invading his usurped privileges.

"In September, the Kingbird begins to leave the United States, and proceeds to pass the winter in tropical America. During the period of migration southward, Audubon remarks that they fly and sail though the air with great ease, at a considerable elevation; and they thus continue their silent retreat throughout the night, until about the first of October, when they are no longer to be seen within the limits of the Middle States."

Wilson says:

"Whatever antipathy may prevail against him for depredations on the drones, or, if you will, on the bees, I can assure the cultivator that this bird is greatly his friend, in destroying multitudes of insects, whose larvæ prey on the harvests of his fields, particularly his corn, fruit-trees, cucumbers, and pumpkins. Those noxious insects are the daily food of this bird, and he destroys, upon a very moderate average, some hundreds of them daily. The death of every Kingbird is therefore an actual loss to the farmer, by multiplying the numbers of destructive insects, and encouraging the depredations of Crows, Hawks, and Eagles, who avoid as much as possible his immediate vicinity.

"For myself, I must say that the Kingbird possesses no common share of my regard. I honor this little bird for his extreme affection for his young, for his contempt of danger, and unexampled intrepidity; for his meekness of behavior when there are no calls on his courage, a quality which, even in the human race, is justly considered so noble:

"'In peace there's nothing so becomes a man
As modest stillness and humility;
But when the blast of war,' etc.

But, above all, I honor and esteem this little bird for the millions of ruinous vermin which he rids us of, whose depredations in one season, but for the service of this and other friendly birds, would far overbalance all the produce of the bee-hive in fifty.

"As a friend to this persecuted bird, and an enemy to prejudices of every description, will the reader allow me to set this matter in a somewhat clearer and stronger light, by presenting him with a short practical epitome of the Kingbird's history:

"'Far in the south, where vast Maragnon flows,
And boundless forests unknown wilds inclose;
Vine-tangled shores and suffocating woods,
Parched up with heat or drowned with pouring floods;
Where each extreme alternately prevails,
And nature sad their ravages bewails;
Lo! high in air, above those trackless wastes,
With spring's return the Kingbird hither hastes;
Coasts the famed gulf, and from his height explores
Its thousand streams, its long indented shores,
Its plains immense, wide opening on the day,
Its lakes and isles, where feathered millions play:
All tempt not him; till, gazing from on high,
Columbia's regions wide below him lie;
There end his wanderings and his wish to roam,
There lie his native woods, his fields, his home;
Down, circling, he descends from azure heights,
And on a full-blown sassafras alights.

"'Fatigued and silent, for a while he views
His old frequented haunts, and shadows recluse;
Sees brothers, comrades, every hour arrive;
Hears humming round, the tenants of the hive:
Love fires his breast; he wooes, and soon is blest,
And in the blooming orchard builds his nest.

"'Come now, ye cowards! ye whom heaven disdains;
Who boast the happiest home—the richest plains;
On whom, perchance, a wife, an infant's eye
Hang as their hope, and on your arm rely;
Yet, when the hour of danger and dismay
Comes on your country, sneak in holes away,
Shrink from the perils ye were bound to face,
And leave those babes and country to disgrace;
Come here (if such we have), ye dastard herd!
And kneel in dust before this noble bird.

"'When the speckled eggs within his nest appear,
Then glows affection ardent and sincere;
No discord sours him when his mate he meets,
But each warm heart with mutual kindness beats.
For her repast he bears along the lea
The bloated gadfly and the balmy bee;
For her repose scours o'er th' adjacent farm,
Where Hawks might dart, or lurking foes alarm;
For now abroad a band of ruffians prey—
The Crows, the Cuckoo, and the insidious Jay;
These, in the owner's absence, all destroy,
And murder every hope and every joy.

"'Safe sits his brooding mate, her guardian, he,
Perched on the top of some tall, neighboring tree;
Thence, from the thicket to the concave skies,
His watchful eye around unceasing flies.
Wrens, Thrushes, Warblers, startled at his note,
Fly in a fright the consecrated spot.
He drives the plundering Jay with honest scorn
Back to his woods, the mocker to his thorn;
Sweeps 'round the Cuckoo as the thief retreats;
Attacks the Crow, the daring Hawk defeats;
Darts on the Eagle downward from afar,
And 'midst the clouds, prolongs the whirling war.
All danger o'er, he hastens back elate,
To guard his post, and feed his faithful mate.

"'Behold him now, his little family flown;
Meek, unassuming, silent, and alone.
Lured by the well-known hum of favorite bees,
As low he hovers o'er the garden trees,
(For all have failings, passions, whims that lead,
Some favorite wish, some appetite to feed,)
Straight he alights, and from the pear-tree spies
The circling stream of humming insects rise;
Selects his prey, darts on the busy brood,
And shrilly twitters o'er his savory food.

"'Ah! ill-timed triumph! direful note to thee,
That guides thy murderer to the fatal tree.
See where he skulks! and takes his gloomy stand,
The deep-charged musket hanging in his hand;
And, gaunt for blood, he leans it on a rest,
Prepared, and pointed at thy snow-white breast.
Ah! friend, good friend, forbear that barbarous deed;
Against it valor, goodness, pity plead.
If e'er a family's griefs, a widow's woe,
Have reached thy soul, in mercy let him go!
Yet, should the tear of pity naught avail,
Let interest speak, let gratitude prevail.
Kill not thy friend, who thy whole harvest shields,
And sweeps ten thousand vermin from thy fields.
Think how this dauntless bird, thy poultry's guard,
Drove every Hawk and Eagle from thy yard;
Watched round the cattle as they fed, and slew
The hungry blackening swarms that round them flew.

The Pigeon Hawk. (*Falco Columbarius.*)

Fig. 3, Female. Fig. 4, Male.

This spirited little Hawk, excepting in size, resembles very closely the famed Peregrine Falcon.

Dr. Elliott Coues describes this species as follows:

"Adult male: above, ashy-blue, sometimes almost blackish, sometimes much paler; below, pale fulvous, or ochraceous, whitish on the throat; the breasts and sides with large oblong dark-brown spots, with black shaft lines; the tibiæ reddish, streaked with brown; inner webs of primaries with about eight transverse white or whitish spots; tail tipped with white, and with the outer feather whitening, with a broad subterminal black zone and three or four black bands alternating with whitish; cere, greenish yellow; feet, yellow. Female, with the upper parts ashy-brown; the tail with four or five indistinct whitish bands; about thirteen—wing, eight; tail, five."

Says Audubon:

"The Pigeon Hawk ranges very extensively over the United States, and extends its migrations far beyond their limits on either side. Mr. Townsend found it on the Rocky Mountains, as well as along the shores of the Columbia river. Dr. Richardson mentions it as not uncommon about York Factory, in latitude 57 degrees, and it is not improbable that it wanders farther, as he speaks of having seen a small Hawk on the north shore of Great Bear Lake, in latitude 66 degrees, which may have been a male as small as the one represented in my plate. I found it very abundant in Texas early in May, when I shot as many as five on a small island in a short time."

Nuttall remarks of this bird:

"It is shy, skulking, and watchful, seldom venturing beyond the unreclaimed forest, and flies rapidly, but, I believe, seldom soars or hovers. Small birds or mice constitute his principal food. . . . Sometimes, when shot at without effect, he will fly in circles around the gunner, and utter impatient shrieks, probably in apprehension for the safety of his mate, or to communicate a cry of alarm."

Wilson writes:

"This small Hawk possesses great spirit and rapidity of flight. He is generally migratory in the Middle and Northern States, arriving in Pennsylvania early in spring, and extending his migrations as far north as Hudson's Bay. After building and rearing his young, he retires to the South early in November. . . . When the Reed-birds, Grakles, and Red-winged Blackbirds congregate in large flights, he is often observed hovering in their rear, or on their flanks, picking up the weak, the wounded, or stragglers, and frequently making a sudden and fatal sweep into the very midst of their multitudes. The flocks of Robins and Pigeons are honored with the same attentions from this marauder, whose daily excursions are entirely regulated by the movements of the great body on whose unfortunate members he fattens.

"I can not, in imitation of European naturalists, embellish the history of this species with anecdotes of its exploits in falconry. This science, if it may be so called, is among the few that have never yet traveled across the Atlantic. Neither does it appear that the idea of training our Hawks or Eagles to the chase ever suggested itself to any of the Indian nations of North America. The Tartars, however, from whom, according to certain writers, many of these nations originated, have long excelled in the practice of this sport, which is indeed better suited to an open country than to one covered with forests. Though once so honorable and universal, it is now much disused in Europe, and in Britain is nearly extinct."

The Pigeon Hawk is from eleven to twelve, and sometimes found thirteen inches long, and about twenty-three inches broad. The whole upper parts, except the tail, are of a dark brown; the tail is crossed with bars of lighter color, and tipped with dirty-white; the quill-feathers are still darker brown, almost black, and near their tips seamed with dull white—their inner vanes marked with rounded spots of light reddish brown; the bill is proportionately strong, short, and stoutly toothed, and is of a light bluish color, black toward the tip; the naked skin surrounding the eyes is greenish, as is also the cere; the temples, and a barely perceptible line over the eye, are light brown. The lower parts are of a light yellowish brown, or a brownish white, and streaked with dark brown; toward the femoral feathers these streaks take more the shape of arrow-heads. The feet and legs are yellow, the claws bluish black; the wings are long, reaching, when closed, within an inch of the tip of the tail; the second and third of the primaries are the largest, and of the same length; the iris is a bright, deep hazel color. The female is usually an inch and a half longer than the male, and of a deeper color; otherwise it is marked in the same manner as the male. From the corner of the mouth in both, a somewhat darker line runs toward the shoulders, bearing some similarity to that which characterizes the Peregrine Falcon.

The nest of this little filibuster is built in different places: sometimes in the hollow of a tree; on the top of an old stump, some fifteen or twenty feet above the ground; in the hollow of a rock, and on the branches of a tree near the trunk. It consists of small branches, twigs, thin sticks, fibrous roots, and dry grass, and lined

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inside a little with fine dry grass, and a few feathers. Its eggs are usually three, of a dirty-white color, and marked with reddish spots or dots. The young are at first covered with a light-colored down, but are soon full-fledged. In the latter part of the fall, the Pigeon Hawk retires with the Blackbirds toward the South.

PLATE XXXII.

The Great Crested Fly-catcher. (*Myiarchus crinitus.*)

Fig. 1.

This beautiful bird is mostly an inhabitant of the forests, and much more so than the Tyrant Fly-catcher, and consequently is not so well known. According to Nuttall, this species, nearly unknown in New England, arrives in Pennsylvania early in May, and builds his nest in the deserted holes of the Woodpecker or Blue-bird. He also frequents the orchard, and is equally fond of bees with the King-bird. He has no other note than a harsh squeak, which sounds like 'paûp, 'païp, payŭp, 'paywip, with a strong accent on the first syllable. He preys actively on insects, which he collects from his stand, and, in short, has most of the manners and physiognomy of the whole section or family to which he belongs. The nest being formed in the hollow of a tree, the materials are consequently scant, but somewhat novel, being, according to Catesby and Wilson, a little loose hay and large feathers, with hogs' bristles, dogs' hair, and pieces of cast snake-skins, the last of which, though an extraordinary material, is rarely wanting, its elastic softness forming a suitable bed for the young. The eggs are four, of a dull white, thickly marked with scratches and purple lines of various tints, as if laid on with a pen. The note of the male appears often delivered in anger and impatience, and he defends his retreat from the access of all other birds, with the tyrannic insolence characteristic of the King-bird.

Toward the end of summer, they feed on berries of various kinds, being particularly partial to poke-berries and whortle-berries, which, for a time, seem to constitute the principal food of the young. They remain in the Middle States till about the middle of September, when they retire to tropical America. I observed a pair in an orchard at Acton, Mass. They had reared a brood in the vicinity, and still appeared very stationary on the premises; their harsh 'payup, and sometimes a slender twittering, as they took the perch, were heard almost from morn to night, and resembled at first the chirp of the Robin. According to Wilson, they possess strong traits of their particular *caste*, and are all remarkably dexterous at their profession of fly-catching. In the woods, his harsh *squeak*—for he has no song—is occasionally heard above most others. He also visits the orchard; is equally fond of bees, but wants the courage and magnanimity of the King-bird. According to Audubon, the Great Crested Fly-catcher arrives in Louisiana and the adjacent country in March. Many remain there and breed, but the greater number advance toward the Middle States, and disperse among the lofty woods, preferring, at all times, sequestered places. I have thought that they gave a preference to the high lands, and yet I have often observed them in the low, sandy woods of New Jersey. Louisiana and the countries along the Mississippi, together with the State of Ohio, are the districts most visited by this species in one direction; and, in another, the Atlantic States, as far as Massachusetts. In this last, however, it is very seldom met with, unless in the vicinity of the mountains, where occasionally some are found breeding. Farther eastward, it is entirely unknown. . . . No association takes place among different families, and yet the solicitude of the male toward his mate, and of the parent birds toward their young, is exemplary. The latter are fed and taught to provide for themselves, with a gentleness which might be copied by beings higher in the scale of nature, and in them might meet with as much gratitude as that expressed by the young Fly-catchers toward their anxious parents. The family remain much together while in the United States, and go off in company early in September. This species, like the Tyrant Fly-catcher, migrates by day, and, during its journey, is seen passing at a great height. The squeak or sharp note of the Great Crested Fly-catcher is easily distinguished from that of any of the genus, as it transcends all others in shrillness, and is heard mostly in those dark woods, where, recluse-like, it seems to delight. During the love-season, and so long as the male is paying his addresses to the female, or proving to her that he is happy in her society, it is heard for hours, both at early dawn and sometimes after sunset; but as soon as the young are out, the whole family are mute.

The nest of this bird is usually built in the hollow of a tree, in the excavation made by the Woodpecker, or a vacant hollow deserted by a Blue-bird. It is very artlessly constructed of different kinds of materials, such as dry grass, feathers, hogs' bristles, horse hair, fibrous roots, and pieces of cast snake-skins. Snake-skins with this bird appear to be an indispensable article; nests are seldom, if ever, found without this material forming a part of them. The female lays four eggs of a dull cream color, thickly scratched with purple lines of various tints, as if done with a pen.

The Red-bellied Woodpecker. (*Centurus carolinus.*)

Fig. 2, Male. Fig. 3, Female.

This species is a visitor to a large extent of country. It is found from Upper Canada to the Gulf of Mexico, and from near the Rocky Mountains down to the Atlantic coast. Audubon says:

"I have found it from Texas to the extremities of the British provinces of Nova Scotia, and as far inland as I have traveled. It appears, however, that it does not inhabit the fur countries, as no mention is made of it by Dr. Richardson in the Fauna Boreali-Americana. It is generally more confined to the interior of the forests, especially during the time of its breeding, than the Hairy Woodpecker, although, in winter, I have found it quite as easily approached. In autumn, it frequently occurs in the cornfields, where it takes its share of the grain, in common with the Hairy, the Downy, and other Woodpeckers. It is a lively and active bird, fond of rolling its tappings against the decayed top-branches of trees, often launching forth after passing insects, and feeding during winter on all such berries as it can procure. Its flight is strong and better sustained than that of the Yellow-bellied or Hairy Woodpeckers, and, like the Golden-winged species, it not unfrequently alights across the smaller branches of the trees, a habit which, I assure you, is oftener exhibited than has been supposed, by all our species of this interesting tribe of birds. According to Nuttall, this species inhabits the whole North American continent, from the interior of Canada to Florida, and even the island of Jamaica, in all of which countries it probably rears its young, migrating only partially from the colder regions. The Red-bellied Woodpecker dwells in the solitude of the forest; amidst the tall and decaying trees only, he seeks his less varied fare, and leads a life of roving wildness and independence, congenial with his attachment to freedom and liberty. Sometimes, however, on the invasion of his native haunts by the progress of agriculture, he may be seen prowling among the dead and girdled trees, which now afford him an augmented source of support; and, as a chief of the soil, he sometimes claims his native rights by collecting a small tithe from the usurping field of maize. His loud and harsh call of *'tshow*, *'tshow*, *'tshow*, *'tshow*, reiterated like the barking of a cur, may often be heard, through the course of the day, to break the silence of the wilderness in which his congenial tribe are almost the only residents. On a fine spring morning, I have observed his desultory ascent up some dead and lofty pine, tapping at intervals, and dodging from side to side, as

he ascended in a spiral line; at length, having gained the towering summit, while basking in the mild sunbeams, he surveys the extensive landscape, and almost with the same reverberating sound as his blows, at intervals, he utters a loud and solitary *'cur'rh*, in a tone as solemn as the tolling of the campanero; he thus hearkens, as it were, to the shrill echoes of his own voice, and, for an hour at a time, seems alone employed in contemplating, in cherished solitude and security, the beauties and blessings of the rising day.

Wilson writes: "This species possesses all the restless and noisy habits so characteristic of its tribe. It is more shy and less domestic than the Red-headed one (*P. erythrocephalus*), or any of the other spotted Woodpeckers. It is also more solitary. It prefers the largest, high-timbered woods, and tallest decayed trees of the forest; seldom appearing near the ground, on the fences, or in orchards, or open fields; yet, when the trees have been deadened, and stand pretty thick in fields of Indian corn, as is common in new settlements, I have observed it to be very numerous, and have found its stomach sometimes completely filled with that grain. Its voice is hoarser than any of the others, and its usual note, 'chow, has often reminded me of the barking of a little lap-dog. It is a most expert climber, possessing extraordinary strength in the muscles of its feet and claws, and moves about the body and horizontal limbs of the trees, with equal facility, in all directions. It rattles, like the rest of the tribe, on the dead limbs, and with such violence as to be heard, in still weather, more than half a mile off, and listens to hear the insects it has alarmed. In the lower side of some lofty branch that makes a considerable angle with the horizon, the male and female, in conjunction, dig out a circular cavity for their nest, sometimes out of the solid wood, but more generally into a hollow limb, twelve or fifteen inches above where it becomes solid. This is usually performed early in April. The female lays five eggs of a pure white, or almost semi-transparent, and the young generally make their appearance toward the latter end of May or beginning of June, climbing up to the higher parts of the tree, being as yet unable to fly. In this situation, they are fed for several days, and often become the prey of the Hawks.' From seeing the old ones continuing their caresses after this period, I believe that they often, and perhaps always, produce two broods in a season. During the greatest part of the summer, the young have the ridge of the neck and head of a dull brownish-ash; and a male of the third year has received his complete colors."

The Red-bellied Woodpecker is ten inches in length, and seventeen in extent; the bill is nearly an inch and a half in length, wedged at the point, but not quite so much grooved as some others—strong, and of a bluish-black color; the nostrils are placed in one of these grooves, and covered with curving tufts of light-brown hairs, ending in black points; the feathers on the front stand more erect than usual, and are of a dull yellowish-red; from them, along the whole upper part of the head and neck, down the back, and spreading round to the shoulders, is of the most brilliant, golden, glossy red; the whole cheeks, lined over the eye, and under side of the neck, are a pale-buff color, which, on the breast and belly, deepens into a yellowish-ash, stained on the belly with a blood-red; the vent and thigh feathers are a dull-white, marked down their centers with heart-formed and long arrow-pointed spots of black. The back is black, crossed with transverse curving lines of white; the wings are also black; the lesser wing-coverts, circular-tipped, and the whole primaries and secondaries beautifully crossed with bars of white, and also tipped with the same; the rump is white, interspersed with touches of black; the tail-coverts, white near their extremities. The tail consists of ten feathers, the two middle ones black, their anterior webs or vanes white, crossed with diagonal spots of black; then, where the edges of the two feathers just touch, coincide and form heart-shaped spots; a narrow sword-shaped line of white runs up the exterior side of the shafts of the same feathers; the next four feathers, on each side, are black, the outer edges of the exterior ones barred with black and white, which, on the lower side, seems to cross the whole vane, as in the figure; the extremities of the whole tail, except the outer feathers, are black, sometimes touched with yellowish or cream color; the legs and feet are of a bluish-green, and the iris of the eye red. The tongue, or *os hyoides*, passes up over the hind head, and is attached, by a very elastic, retractile membrane, to the base of the right nostril; the extremity of the tongue is long, horny, very pointed, and thickly edged with barbs; the other part of the tongue is worm-shaped.

Chicadee, or Black-capped Titmouse (*Parus atricapillus*).

Fig. 4.

This familiar, hardy, and restless little bird chiefly inhabits the Northern and Middle States, as well as Canada, in which it is even resident in winter, around Hudson's Bay, and has been met with at sixty-two degrees on the northwest coast. In all the Northern and Middle States, during autumn and winter, families of these birds are seen chattering and roving through the woods, busily engaged in gleaning their multifarious food, along with the Nuthatches and Creepers, the whole forming a busy, active, and noisy group, whose manners, food, and habits bring them together in a common pursuit. Their diet varies with the season; for, beside insects, their larvæ, and eggs, of which they are more particularly fond, in the month of September, they leave the woods, and assemble familiarly in our orchards and gardens, and even enter the thronging cities, in quest of that support which their native forests now deny them. Large seeds of many kinds, particularly those which are oily, as the seeds of the sun-flower, and pine and spruce kernels, are now sought after. These seeds, in the usual manner of the genus, are seized in the claws and held against the branch, until picked open by the bill, to obtain their contents. Fat of various kinds is also greedily eaten, and they regularly watch the retreat of the hog-killers, in the country, to glean up the fragments of meat which adhere to the places where the carcases have been suspended. At times, they feed upon the wax of the candle-berry myrtle (*myrica cerifera*). They likewise pick up crumbs near the houses, and search the weather-boards, and even the window-sills, familiarly for their lurking prey, and are particularly fond of spiders and the eggs of destructive moths, especially those of the canker-worm, which they greedily destroy in all its stages of existence. It is said that they sometimes attack their own species, when the individual is sickly, and aim their blows at the skull, with a view to eat the brain; but this barbarity I have never witnessed. In winter, when satisfied, they will descend to the snow-bank beneath, and quench their thirst by swallowing small pieces; in this way, their various and frugal meal is always easily supplied; and hardy, and warmly clad in light and very downy feathers, they suffer little inconvenience from the inclemency of the seasons. Indeed, in the winter, or about the close of October, they at times appear so enlivened as already to show their amorous attachment, like our domestic cock, the male approaching his mate with fluttering and vibrating wings; and in the spring season, the males have obstinate engagements, darting after each other with great velocity and anger. Their roost is in the hollow of decayed trees, where they also breed, making a soft nest of moss, hair, and feathers, and laying from six to twelve eggs, which are white, with specks of brown-red. They begin to lay about the middle or close of April, and though they commonly make use of natural or deserted holes of the Woodpecker, yet, at times, they are said to excavate a cavity for themselves, with much labor. The first brood take wing about the 7th or 10th of June, and they have sometimes a second toward the end of July. The young, as soon as fledged, have all the external marks of the adult; the head is equally black, and they chatter and skip about with all the agility and self-possession of their parents, who appear, nevertheless, very solicit-

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ous for their safety. From this time, the whole family continue to associate together through the autumn and winter. They seem to move by concert from tree to tree, keeping up a continued *'tshe-de-de-de-de* and *'tshe-de-de-de-dait*, preceded by a shrill whistle, all the while busily engaged, picking round the buds and branches, hanging from their extremities, and proceeding often in reversed postures, head downward, like so many tumblers, prying into every crevice of the bark, and searching around the roots, and in every possible retreat of their insect prey or its larvæ. If the object chance to fall, they industriously descend to the ground, and glean it up with the utmost economy.

On seeing a cat, or other object of natural antipathy, the Chickadee, like the peevish Jay, scolds in a loud, angry, and hoarse note, like *'tshe dâigh, dâigh*. Among the other notes of this species, I have heard a call like *'tshe-de-jay*, *'tshe-de-jay*, the two first syllables being a slender chirp, with the *jay* strongly pronounced. Almost the only note of this bird which may be called song is one which is frequently heard at intervals in the depths of the forests, at times of the day, usually, when all other birds are silent. We then may sometimes hear, in the midst of this solitude, two feeble, drawling, clearly-whistled, and rather melancholy notes, like *'te-dĕrry*, and sometimes *'ye-pĕrrit*, and occasionally, but much more rarely, in the same wiry, whistling, solemn tone, *pēhbē*. The young, in winter, also, sometimes drawl out these contemplative strains. In all cases, the first syllable is very high and clear, the second word drops low, and ends like a feeble plaint. This is nearly all the quaint song ever attempted by the Chickadee, and is, perhaps, the two notes sounding like the whetting of a saw. On fine days, about the commencement of October, I have heard the Chickadee, sometimes for half an hour at a time, attempt a lively, petulent warble, very different from his ordinary notes. On these occasions, he appears to flirt about, still hunting for his prey, but almost in an ecstasy of delight and vigor. But, after a while, the usual drawling note again occurs. These birds, like many others, are very subject to the attacks of vermin, and they accumulate in great numbers around that part of the head and front which is least accessible to their feet.

The Chickadee is seldom seen near waters; often, even in summer, in dry, shady, and secluded woods; but when the weather becomes cold, and as early as October, roving families, urged by necessity, and the failure of their ordinary insect-fare, now begin to frequent orchards and gardens, appearing extremely familiar, hungry, indigent, but industrious, prying with restless anxiety into every cranny of the bark or holes in decayed trees, after dormant insects, spiders, and larvæ, descending with the strictest economy to the ground in quest of every stray morsel of provision which happens to fall from their grasp. Their quaint notes and jingling warble are heard even in winter, on fine days, when the weather relaxes in its severity; and, in short, instead of being the river hermit of its European analogue, it adds, by its presence, indomitable action, and chatter, an air of cheerfulness to the silent and dreary winters of the coldest parts of America. Dr. Richardson found it in the fur countries up to the sixty-fifth parallel, where it even contrives to dwell, as in other parts of the continent, throughout the whole year.—*Nuttall.*

It is generally known that this species is one of our resident birds, and that he is active, restless, and noisy. According to Audubon, it is hardy, smart, restless, industrious, and frugal. The Black-cap Titmouse ranges through the forest during the summer, and, retiring to its more secluded parts, as if to ensure a greater degree of quiet, it usually breeds there. Numerous eggs produce a numerous progeny; and as soon as the first brood has been reared, the young range hither and thither, in a body, searching for food, while their parents, intent on forming another family, remain concealed, and almost silent, laying their eggs in the hole deserted by some small Woodpecker, or forming one for themselves. The Black-cap Titmouse, or Chickadee, as it is generally named in our Eastern States, though exceedingly shy in summer, or during the breeding season, becomes quite familiar in winter, although it never ventures to enter the habitations of man; but, in the most boisterous weather, requiring neither food nor shelter, then, it may be seen amidst the snow, in the rugged paths of the cheerless woods, when it welcomes the traveler or the wood-cutter with a confidence and cheerfulness far surpassing the well-known familiarity of the Robin Redbreast of Europe. Often, on such occasions, should you offer it no matter how small a portion of your fare, it alights without hesitation, and devours it without manifesting any apprehension. The sound of an ax in the woods is sufficient to bring forth several of these busy creatures; and having discovered the woodman, they seem to find pleasure in his company. According to Wilson, they are most usually seen during the fall and winter, when they leave the depths of the woods, and approach nearer to the scenes of cultivation. At such seasons, they abound among evergreens, feeding on the seeds of the pine-tree; they are also fond of sunflower seeds, and associate in parties of six, eight, or more, attended by the two species of Nuthatch, the Crested Titmouse, Brown Creeper, and small Spotted Woodpecker, the whole forming a very nimble and restless company, whose food, manners, and dispositions are pretty much alike. About the middle of April, they begin to build, choosing the deserted hole of a Squirrel or Woodpecker, and sometimes, with incredible labor, digging out one for themselves. The female lays six white eggs, marked with minute specks of red. The first brood appear about the middle of June, and the second toward the end of July. The whole of the family continue to associate together during winter. This species has a very extensive range; it has been found on the western coast of America, as far north as sixty-two degrees latitude; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long, soft, downy plumage, it braves the severest cold of those northern regions.

PLATE XXXIII.

The American Bittern. (*Botaurus lentiginosus*).

Fig. 1.

The Bittern of America, though nowhere numerous, is found in almost every part of the continent where there exist extensive marshes, either maritime or inland, up to the fifty-eighth parallel of northern latitude,* where they are frequent, in the morasses and willow thickets of the interior, throughout the fur countries. From the inclement regions, they retire in winter, while, in other parts, they are permanently resident. They are said to revisit Severn river, at Hudson's Bay, about the beginning of June, when they make their nests in the swamps, among the sedge, and lay four cinerous green eggs. They breed, also, in several parts of the State of Massachusetts, young birds being met with in the marshes of Fresh pond, and other places in the vicinity of Boston, about the middle of summer.

During the day, the Night Hen, as it is called, remains hid in the reeds and sedge, and rarely comes out till the approach of night. When disturbed in its retreat, it flies off with a hollow *'kiva*, or *kowk*, and sometimes gives a loud squeak of alarm. At this time, as it flies heavily, and at no great height, it is easily shot down; they are also sometimes obtained by laying wait for them as they sally out in the evening, toward the salt marshes, in a particular direction, in quest of their usual supply of food.

In the breeding season, and throughout a great part of the summer, we often hear the loud, booming note of this bird, from the marshes of Fresh pond, morning and evening, and sometimes even

*Richardson's North. Zool., ii, p. 374.

during the day. Instead of the *bump* or *boomp*, however, of the true Bittern, their call is something like the uncouth syllables of *pump-aŭ-gàh*, but uttered in the same low, bellowing tone.

The cry of the European Bittern, so similar to that of our own species, is thus elegantly described by Goldsmith in his Animated Nature: "Those who have walked in a summer evening by the sedgy sides of unfrequented rivers, must remember a variety of notes from different water-fowl: the loud scream of the Wild Goose, the croaking of the Mallard, the whining of the Lapwing, and the tremulous neighing of the Jack-snipe. But, of all these sounds, there is none so dismally hollow as the booming of the Bittern. It is impossible for words to give those who have not heard this evening-call an adequate idea of its solemnity. It is like the interrupted bellowing of a bull, but hollower and louder, and is heard at a mile's distance, as if issuing from some formidable being that resided at the bottom of the waters. This is the Bittern, whose wind-pipe is fitted to produce the sound for which it is remarkable; the lower part of it, dividing into the lungs, being supplied with a thin, loose membrane, that can be filled with a large body of air, and exploded at pleasure. These bellowings are chiefly heard from the beginning of spring to the end of autumn, and are the usual calls during the pairing season."—*Nuttall.*

The Bittern manifests considerable skill in taking position. If it is standing quiet, and is undisturbed, it raises its body a little in front, and draws in its long neck to such an extent so that its head will touch its back. When irritated, it will raise the feathers of its body, especially those of the head and neck, and open a little its bill, giving it quite a formidable appearance. Its walk is slow, considerate, and sluggish; the foot is placed before the other only after careful study. The flight is easy and noiseless, but slow and apparently awkward; the large, broad wings are moved with a languid stir and slowly succeeding flaps, with a little increase in flapping on rising. To gain height, the Bittern marks out circles, neither hovering nor sailing, but constantly flapping the wings; this it continues, also, when coming down, until it is close to the reeds or rushes, when it suddenly contracts the wings, and apparently falls perpendicularly down between the stems of the rushes. It only flies at great height by night; in daylight, its flight is close above the rushes or reeds. During its flight at night, it utters a kind of raven-like crowing. These peculiar bellowings are only heard during mating-time.

Although, in a particular place, apparently favorable, some dozens of these birds may be found to-day, yet, perhaps, on visiting it to-morrow, you will not find one remaining; and districts resorted to one season or year, will be found deserted by them the next. That they migrate by night, I have always felt assured; but that they are altogether nocturnal, is rather uncertain, for, in more than half a dozen instances, I have surprised them in the act of procuring food in the middle of the day, when the sun was shining brightly. That they are extremely timid, I well know, for on several occasions, when I have suddenly come upon them, they have stood still, from mere terror, until I have knocked them down with an oar or stick; yet, when wounded, and their courage is raised, they show great willingness to defend themselves; and if in the presence of a dog, they never fail to spread out, to their full extent, the feathers of the neck, leaving its hind part bare, ruffle those of their body, extend their wings, and strike violently at their enemy. When seized, they scratch furiously, and endeavor to bite, so that, unless great care be taken, they may inflict severe wounds.—*Audubon.*

Wilson describes it as another nocturnal species, common to all our sea and river marshes, though nowhere numerous. It rests all day among the reeds and rushes, and, unless disturbed, flies and feeds only during the night. In some places, it is called the Indian Hen; on the sea-coast of New Jersey, it is known by the name of *dunkatoo*, a word probably imitative of its common note. They are also found in the interior, having myself killed one at the inlet of the Seneca lake, in October.

The American Bittern is twenty-seven inches long, and three feet four inches in extent; from the point of the bill to the extremity of the toes, it measures three feet. The bill is four inches long; the upper mandible black; the lower, greenish-yellow; lores and eyelids, yellow; iris, bright-yellow; upper part of the head, flat, and remarkably depressed; the plumage there is of a deep blackish-brown, long behind and on the neck, the general color of which is a yellowish-brown, shaded with darker; this long plumage of the neck the bird can throw forward at will, when irritated, so as to give him a more formidable appearance; throat, whitish, streaked with deep brown; from the posterior and lower part of the auriculars, a broad patch of deep black passes diagonally across the neck, a distinguished characteristic of this species; the back is deep brown, barred and mottled with innumerable specks and streaks of brownish-yellow; quills, black, with a leaden gloss, and tipped with yellowish-brown; legs and feet, yellow, tinged with pale green; middle claw, pectinated; belly, light yellowish-brown, streaked with darker; vent, plain; thighs, sprinkled on the outside with grains of dark-brown; male and female nearly alike, the latter somewhat less. According to Bewick, the tail of the European Bittern contains only ten feathers; the American species has invariably twelve. The intestines measured five feet six inches in length, and were very little thicker than a common knitting needle; the stomach is usually filled with fish or frogs.

The American bird, no less than the true Bittern, is considered by many an excellent food.

The Red-winged Starling (*Agelaius phœniceus*)

Fig. 2, Male. Fig. 3, Female.

The Red-winged Starlings, though generally migratory in the States north of Maryland, are found during the winter in immense flocks, sometimes associated with the Purple Grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia, and Louisiana, particularly near the sea-coast, and in the vicinity of large rice and corn-fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with the aerial evolutions of these great bodies of Starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment; sometimes suddenly rising from the fields around me, with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion, amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then, descending like a torrent, and covering the branches of some detached grove or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles, and, when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand, and even sublime. The whole season of winter, that, with most birds, is passed in struggling to sustain life, in silent melancholy, is, with the Red-wings, one continued carnival. The profuse gleanings of the old rice, corn, and buckwheat-fields supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial maneuvers, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the 20th of March, or earlier, if the season be open, they begin to enter Pennsylvania in numerous, though small, parties. These migrating flocks are usually observed from daybreak to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well-known notes and appearance, after the long and dreary

solitude of winter, inspire cheerful and pleasing ideas of returning spring, warmth, and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue, in small parties, to frequent the low borders of creeks, swamps, and ponds, till about the middle of April, when they separate in pairs to breed; and, about the last week in April, or first in May, begin to construct their nests. The place chosen for this is generally within the precincts of a marsh or swamp, meadow, or other like watery situation—the spot, usually a thicket of alder-bushes, at the height of six or seven feet from the ground; sometimes in a detached bush, in a meadow of high grass; often in a tussock of rushes, or coarse rank grass, and not unfrequently on the ground; in all of which situations I have repeatedly found them. When in a bush, they are generally composed outwardly of wet rushes, picked from the swamp, and long, tough grass, in large quantities, and well lined with very fine lint. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted—a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution is observed when a tussock is chosen, by fastening the top together, and intertwining the materials, of which the nest is formed, with the stalks of rushes around. When placed on the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light-blue, marked with faint tinges of light purple, and long, straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and still more particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighborhood. Like the Lapwing of Europe, he flies to meet the intruder, hovers at a short height overhead, uttering loud notes of distress; and while in this situation, displays to great advantage the rich, glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases, his cries become more shrill and incessant, and his motions rapid and restless; the whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Toward the beginning or middle of August, the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked, that, at this time, the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September, these flocks have become numerous and formidable, and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that can not be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds, wheeling and driving over the meadows and devoted cornfields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, though composed of numerous envelopments of closely wrapped leaves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a tempest, blackening half an acre at a time; and, if not disturbed, repeat their depredations, till little remains but the cob and the shriveled skins of the grain. What little is left of the tender ear, being exposed to the rains and weather, is generally much injured. All the attacks and havoc made at this time among them with the gun and by the Hawks—several species of which are their constant attendants—have little effect on the remainder. When the Hawks made a swoop among them, they suddenly open on all sides, but rarely in time to disappoint them of their victims; and though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the farm inclosure. From dawn to nearly sunset, this open and daring devastation is carried on, under the eye of the proprietor; and a farmer, who has any considerable extent of corn, would require half-a-dozen men at least, with guns, to guard it; and, even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the Blackbirds. The Indians, who usually plant their corn in one general field, keep the young boys of the village patrolling all day around and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must, however, be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers, and is also chiefly confined to the months of August and September. After this period, the corn having acquired its hard, shelly coat, and the seeds of the reeds or wild oats, with a profusion of other plants, that abound along the river shores, being now ripe and in great abundance, they present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting-places, being often in almost unapproachable morasses; and thither they repair every evening, from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance to destroy these birds, by a party secretly approaching the place, under cover of a dark night, and setting fire to the reeds in several places at once, which being soon enveloped in one general flame, the uproar among the Blackbirds becomes universal; and, by the light of the conflagration, they are shot down in vast numbers while hovering and screaming over the place. Sometimes straw is used for the same purpose, being previously strewed near the reeds and alder-bushes, where they are known to roost, which being instantly set on fire, the consternation and havoc are prodigious; and the party return by day to pick up the slaughtered game. About the first of November, they begin to move off toward the South; though near the sea-coast, in the States of New Jersey and Delaware, they continue long after that period.

Such are the general manners and characteristics of the Red-winged Starling; but there remain some facts to be mentioned, no less authentic and well deserving the consideration of its enemies, more especially of those whose detestation of this species would stop at nothing short of total extirpation.

It has been already stated that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer (for the Crows and Purple Grakles are the principal pests in planting-time), consists of grub-worms, caterpillars, and various other larvæ—the silent, but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribe together. For these vermin, the Starlings search with great diligence in the ground, at the roots of plants, in orchards and meadows, as well as among buds, leaves, and blossoms; and, from their known voracity, the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short computation: If we suppose each bird, on an average, to devour fifty of these larvæ in a day (a very moderate allowance), a single pair, in four months, the usual time such food is sought after, will consume upward of twelve thousand. It is believed that not less than a million pair of these birds are distributed over the whole extent of the United States in summer,

whose food being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents; and, as these are constantly fed on larvæ for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is, however, supposition founded on known and acknowledged facts. I have never dissected one of these birds in spring without receiving the most striking and satisfactory proofs of those facts; and though, in a matter of this kind, it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this and many other species of our birds, yet, in the present case, I can not resist the belief that the services of this species in spring are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico, on the south, to Labrador. Our late enterprising travelers across the continent to the Pacific ocean, observed it in great numbers in several of the valleys, at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, and sings frequently, bristling out its feathers, something in the manner of the Cow Bunting. Their notes, though not remarkably various, are very peculiar. The most common one resembles the syllables *conk-querrèe;* others, the shrill sounds produced by filing a saw; some are more guttural, and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and, contrary to what is observed of many birds, the male loses little of the brilliancy of his plumage by confinement. A very remarkable trait of this bird is, the great difference of size between the male and female; the former being nearly two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different States of the Union; such as the *Swamp Blackbird*, *Marsh Blackbird*, *Red-winged Blackbird*, *Corn or Maize Thief*, *Starling*, etc. Many of them have been carried from this to different parts of Europe; and Edwards relates that one of them, which had no doubt escaped from a cage, was shot in the neighborhood of London; and, on being opened, its stomach was found to be filled with grub-worms, caterpillars, and beetles, which Buffon seems to wonder at, as in their own country, he observes, they feed exclusively on grain and maize.—*Wilson.*

The Red-winged Starling, or Red-shouldered Marsh Blackbird, is so well known as being a bird of the most nefarious propensities, that in the United States one can hardly mention its name without hearing such an account of its pilferings as might induce the young student of nature to conceive that it had been created for the purpose of annoying the farmer. That it destroys an astonishing quantity of corn, rice, and other kinds of grain, can not be denied; but that before it commences its ravages, it has proved highly serviceable to the crops, is equally certain.

The dispersion of this bird over the whole of the United States, the far countries beyond the limits of the inhabitation of the human species, the great Western plains, the Rocky Mountains, and even the shores of the Columbia river, where it was procured by Mr. Townsend, forms a remarkable part of its history. Our surprise becomes greatly increased by the knowledge of its breeding in great numbers in every part of this vast extent. I found the islands about Galveston Bay most plentifully supplied with it, as well as the grassy margins of the pools and bayous of the mainland, where it was seen breeding, sometimes within a few yards of houses. The same occurred on the Florida Keys. The only part of the country visited by me in which I found it wanting is Labrador, although it is known to breed in some portions of the interior of Newfoundland. In many instances, I found it nesting in the Floridas on mangroves and low bushes, in the vicinity of the nests of Cormorants and our smaller Herons, and even sometimes in the midst of them.

This bird is beautifully marked and colored. The bill is comparatively long, cone-shaped, a little compressed, and very sharp-pointed. Its body is powerful. The wing of medium length; the second and third primaries are the most extended. The tail pretty long and rounded; the plumage soft and glossy. The colors of his bridal dress are of a deep black, but on the shoulders a superb scarlet-red, terminating in yellowish-red. The iris of the eye is deep brown, almost black; the bill, legs, and feet are bluish-black; its length about nine inches; in extent, about thirteen and a half inches; length of wing, four and a half inches; length of tail, three and a quarter inches. The female, on the upper side, is blackish-brown, and on the lower side grayish-brown, each feather more or less seamed with yellowish-gray; the throat and the cheeks are of a light-grayish ground color, streaked longitudinally with darker color.

The flesh of the Red-winged Starling is in little esteem, but they are very often kept in cages on account of their beauty of plumage and vivacity. In captivity, they may easily be brought to breed.

PLATE XXXIV.

The Red-headed Duck. (*Aythya americana.*)

Fig. 1, Male. Fig. 2, Female. Fig. 3, Young Male.

This beautiful and, by sportsmen, eagerly sought-for bird is abundant throughout North America. In length, he measures about twenty-one inches, wings usually one-half the length of the body. Bill as long as the head, dull blue in color, with a black belt at the end. The color of the head, from which his name is derived, is a rich, pure chestnut, glossed with a lustrous bronzy-red. Back, grayish-brown, barred with minute white lines. Beneath, abdomen white, darker toward the vent, where it is barred with dusky wavy lines. The range of the Red-head is very extensive, breeding in the fur countries to their most northern limits. They frequent the waters of the Chesapeake in immense numbers. According to Audubon, they are found in immense quantities around New Orleans, arriving there, from their northern haunts, in November, and departing in April. Their food consists of small fish, young tadpoles, small water-lizards, and the tender roots and leaves of various aquatic grasses. They are known to dive very deep in search of food, but haunt, by preference, shallow waters, and show great attachment to certain localities. Their flesh is very highly esteemed, ranking next to that of the Canvas-back, and is eagerly sought for by the epicure. When caught, they take readily to confinement. Their notes are very coarse and unmusical, while their flight is hurried, starting up from the water in sort of flurry, producing with their wings a clear whistling sound. According to Nuttall, they are said to walk awkwardly and with difficulty. It is also added that their cry more resembles the hollow hiss of a serpent than the voice of a bird. Their flight is more rapid than that of the common Wild Duck, and the noise of their wings very different. The troop forms a close body in the air, but they do not proceed in angular lines or obey any particular leader, nor have they any call sufficient for the purpose.

According to Bogardus, the Red-heads are ranked among the best of the Ducks which are found in the Western States; and that very able and well-informed author, Dr. Sharpless, of Philadelphia, stated that he could never distinguish much difference in flavor between Canvas-backs and Red-heads, and that many of the latter were sold as Canvas-backs, and eaten as such by those who professed to know all about the divine flavor.

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The Bobolink, or Rice-bird. (*Dolichonyx orizyvorus.*)

Fig. 4, Male. Fig. 5, Female.

This favorite bird, beloved throughout all the Northern States, resembles man in his habits of tidiness. During his courtship, he is as spruce as any dandy; when family cares arrive, his trim suit becomes threadbare, and he drifts quickly into a sort of shabby gentility. His spring coat is glossy black; hind head, clear cream color; a patch on the side of the breast; feathers on the shoulder-blade and rump white; outer primaries clearly marked and yellowish-white; tip of the tail feathers of a pale brownish-ash. Early in autumn, he gradually fades to the color of the female—yellowish beneath; upper parts, dark brown, excepting the back of the head and rump; two stripes on the top of the head; sides sparsely streaked with dark brown. This bird has a wide-spread geographical distribution, extending from the central portions of South America as far north as the fifty-fourth parallel, and west to the plains of Utah. It is known in the Southern States as the Rice-bird, in the Middle States as the Reed-bird, while throughout the Northern States the name Bobolink is universally given him. It is also known as the May-bird, Meadow-bird, Butter-bird, Skunk-bird, and American Ortolan. Dr. Coues says "the name 'Ortolan,' applied to this bird, is a strange misnomer, the Ortolan being a fringilline bird of Europe."

From the extreme southern point of their winter habitations, they commence their northern journeys early in April. Audubon tells us that small flocks appear in Louisiana sometimes as early as the middle of March. Wilson notes their appearance in Pennsylvania about the 12th of May; while, anywhere from the 12th to the 20th of May, they may be found in full force in Northern New York. It is claimed that when they first start on their migratory journeys, they form immense flocks. If that be the case, long before they reach their breeding haunts, they become widely dispersed, as they only appear in companies of a dozen or more, the male usually preceding, by a few days, the coming of his partner.

By both Wilson and Audubon, it is stated that they do serious damage all through the States of Virginia, Maryland, and Pennsylvania, by devouring wheat, barley, and corn, when in its milky state, and every husbandman exerts himself to the utmost to destroy them. Whether this be so or not, they are the northern farmers' very best friend and ally, and deserve his kindest care and protection. Their food, during the incubating season, consists entirely of grubs, caterpillars, beetles, grasshoppers, spiders, crickets, and seeds of wild grasses and weeds, while recent investigations in the South have disclosed the gratifying fact that they devour, in immense numbers, the larvæ of the destructive cotton-worm, which so frequently threatens the entire cotton of the South.

As beautiful as is their song in the North, they favor the South with still rarer treats in this direction. Audubon gives a description of their concerts, which must be enchanting. He writes: "During their sojourn in Louisiana, in spring, their song, which is extremely interesting, and emitted with a volubility bordering on the burlesque, is heard from a whole party at the same time; when, as each individual is, of course, possessed of the same musical powers as his neighbors, it becomes amusing to listen to thirty or forty of them beginning one after another, as if ordered to follow in quick succession, after the first notes are given by a leader, and producing such a medley as it is impossible to describe, although it is extremely pleasant to hear it. While you are listening the whole flock simultaneously ceases, which appears equally extraordinary. This curious exhibition takes place every time that the flock has alighted on a tree, after feeding for a while on the ground, and is renewed at intervals during the day." Dr. Brewer tells us that these concerts may also be witnessed early in April, in the vicinity of Washington, the Smithsonian grounds being a favorite place of resort.

At the North, unfortunately, they fail to indulge in these general concerts. Busy with the affairs of courtship, each bird pays individual court to the lady of his choice, and sings for her his most hilarious melody. Sometimes, two or three gay gallants pay the most assiduous court to one demure little Quaker maiden. We know of nothing more delightful than, on some June morning, when all the earth and sky blend in sweetest harmony, when the scent of apple-blossoms have not faded utterly out, to lie ensconced in the dark, luscious grass, and watch the Bobolink in his wooing. He sits upon the highest fence-stake for a moment, and then rises gracefully into the air, and pours from his open throat the most wonderful succession of tinkling, vibrating, ringing, rollicking notes that ever filled the ripples of the summer air, wheeling here and there, shouting "bob-o-link, bob-o-link," and then jingling off into a succession of the sweetest, most joyous, ecstatic notes. What pen of man can ever hope to convey the most distant idea of its charming effect? Swaying upon some tall spear of grass, he rests for a moment, and but for a moment, when his indescribable melody again greets you from mid air. Dr. Brewer, who has written charmingly on the songs of our native birds, says of these birds: "They pour out incessantly their strains of quaint but charming music, now on the ground, now on the wing, now on the top of a fence, a low bush, or the swaying stalk of a plant that bends with their weight. The great length of their song, the immense number of short and variable notes of which it is composed, the volubility and confused rapidity with which they are poured forth, the eccentric breaks, in the midst of which we detect the word 'bob-o-link' so distinctly enunciated, unite to form a general result to which no parallel is found in any of the musical performances of our other song-birds. It is at once a unique and a charming production."

The nest of the Bobolink is always found upon the ground. In some meadow, near which running water abounds, they select a rank tussock of grass, and, screened by its green verdure, they make a loose and slightly hollowed nest. This nest is composed of the herbage which conceals it, and in it are laid from five to six eggs of a dull-white ground, sometimes tinged with a light drab or delicate olive, and spotted and blotched all over with a mingling of rufous-brown and lavender. The female is exceedingly shy, and guards the approaches to her nest with the utmost care, always running through the grass quite a distance from it before she takes wing, and using the same precaution on her return, while the male cunningly pretends great anxiety over some different locality, if your footsteps get too near his sitting mate. So cunningly are these nests constructed, and so much care is taken to protect them, that one must needs work long to discover their exact locality.

When the young are hatched, the father forgets his song in his anxious hunt for coleopterous insects, with which to satiate their gaping mouths. After they leave their nest, they still provide for them for a short time, until they have learned where to find and how to catch their own food, when they are compelled to shift for themselves. This occurs about the 15th of July. Freed from care, careless of his apparel, happy, if slipshod, his rollicking song subdued to a simple chirck, the Bobolink passes away the summer hours, until about the 1st of September, when they move into winter-quarters. As they pass southward, these flocks increase in numbers. They crowd along the river-courses, feeding on the seed of the reeds, becoming very fat, and are shot down in masses. Still farther South, the rice-fields afford them the most delicious eating, upon which they fill themselves to repletion, and become easy prey to the most inexpert sportsman. Both Wilson and Audubon tell us that they are then killed by the millions. In the West India Islands, they feed on the seeds of the Guinea-grass, and are known as Butter-birds. We regret our space forbids our introducing Bryant's beautiful poem, in which, under the guise of "Robert of Lincoln," the charms of this beautiful bird are fittingly sung; a regret which also extends to Washington Irving's no less exquisite prose panegyric, which may be found in "Wolfert's Roost."

PLATE XXXV.

The Golden-eyed Duck. (*Bucephala americana.*)

Fig. 1, Male. Fig. 2, Female. Fig. 3, Young Male.

This bird, known also as the Whistle Wing and the common Garrot, is a resident of both continents. The length of the body is from sixteen to nineteen inches, of the wing from eight to nine inches, and frequently weighs from two to three pounds. The head and upper part of the neck are of a beautiful, dark, glossy green; the under surface of a soft, velvety, purplish-black; rump and tail black; bill black, with yellow end; eyes golden, from whence it derives its name. Mudie, in his Feathered Tribes of the British Islands, tells us that these birds appear on the shores and occasionally on the inland waters of England during the winter months, retiring far into the North during the summer. They are abundant throughout North America, even in the high arctic latitudes. They breed extensively in the lake counties of Maine, all along northern New England, and on the borders of the great inland seas. They are found in all the water-courses of the United States, from Maine to Florida. Audubon is disposed to credit them with greater intelligence than is ordinarily found in the family to which they belong. They avoid, with the utmost diligence, all near approaches with the rifle, placing sentinels to watch while they are feeding, who are sure to take cognizance of the most stealthy movements of their natural enemy—the sportsman. They dive with the utmost celerity and at the faintest warning, and only associate with birds whose habits are as quick as their own. Their flight is very rapid, long sustained, and very powerful. Audubon claims that they can easily traverse a space of ninety miles in an hour—a feat which seems incredible considering the weight of their bodies. The whistling made by the movement of their wings, he also assures us, can be heard for full a half-mile.

Their food, on the sea-shore, consists of mollusks, crustaceous and small fish, which give to their flesh an unpleasant flavor; on inland waters, where the diet is more varied, they are eagerly sought for, for the table. Their nests are usually built in the hollow top of some tall stub of a tree, and are composed of grass, dead leaves, bits of moss, and lined with down from its own breast. In it they lay from six to ten eggs, which are almost equally rounded on both ends, of a greenish-blue color, and average from nearly two and one-half by one and three-quarter inches in dimensions. And Shiöldebrand adds, that in common with the Velvet Duck, it breeds abundantly in Lapland, on the banks of the Tornea, within the arctic circle, and nearly to the northern extremity of Europe.

In their autumn migrations the males usually precede the females by at least a fortnight, and spend the early part of the winter apart from them.

PLATE XXXVI.

The Blue Yellow-backed Warbler. (*Parula americana.*)

Fig. 1.

According to Dr. Coues, the male, in spring, blue; back with a golden-brown patch; throat and breast yellow, with a rich brown or blackish patch, the former sometimes extending along the sides; belly, eyelids, two wing-bars, and several tail-spots, white; lores black; upper mandible black, under flesh-colored. The female, in spring with the blue less bright; the back and throat patches not so well defined; young, with the blue glossed with greenish, and these patches obscure or wanting; but always recognizable by the other marks and very small size—four and one-half to four and three-quarter inches; wings two and one-third inches; tail one and three-quarter inches.

The Blue Yellow-backed Warbler is claimed by many ornithologists to be a species of the Titmouse. Wilson says: "Its habits, indeed, partake something of the Titmouse; but the form of its bill is decidedly that of the sylva genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few, feeble, chirping notes, scarcely loud enough to be heard at the foot of the tree. It visits the Middle States from the South the latter part of April, or early in May; is said to be very abundant in Kentucky." According to Audubon, the nest is small, formed of lichens, beautifully arranged on the outside, and lined with cotton substances found on the edges of different mosses; it is placed in the fork of a small twig, near the extremity of the branch. The eggs are pure white, with a few reddish dots at the longer end, and thinks two broods are raised in the year.

The Black and Yellow Warbler. (*Dendroica maculosa.*)

Fig. 2.

This species is about five inches long and seven inches broad; the wing measures two and a half inches, and the tail two inches; crown clear ash; front, iris, and behind the ear, black; over the eye a fine line of white, and another small touch of the same immediately under; back nearly all black; shoulders thinly streaked with olive; rump yellow; tail-coverts jet-black; inner vanes of the lateral tail-feathers white, to within half an inch of the tip, where they are black; two middle ones wholly black; whole lower parts rich yellow, spotted from the throat downward with black streaks; vent white; tail slightly forked; wings black, crossed with two broad transverse bars of white; legs brown; bill black.

This beautiful little species is abundant in the woodlands of the eastern part of the United States. Wilson claims to have found it among the magnolias, not far from Fort Adams, on the Mississippi, and that he first met with it on the banks of the Little Miami, near its junction with the Ohio. Mr. Peale is said to have first discovered this species near Philadelphia. The notes of the Black and Yellow Warbler have a peculiar chirping sound. It may mostly be seen darting about on the outer branches of trees on the border of water-courses.

The Blackburnian Warbler. (*Dendroica blackburniæ.*)

Fig. 3, Male. Fig. 4, Female.

This active and most lovely species of Warblers is abundant in woodlands in the Eastern States. On the Magdalen Islands in the Gulf of St. Lawrence, in June, Audubon remarks that he heard the song of this beautiful Warbler, consisting of five or six loud notes, which it uttered from the branches of a fir-tree while engaged in quest of its prey.

The Blackburnian Warbler is about four and a half inches long and seven inches broad. A stripe of rich orange passes over the eye, and there is a small touch of the same beneath it; the throat and breast brilliant orange; other under-parts whitish, more or less tinged with yellow, and streaked with black; vent white; the back black, more or less interrupted with yellowish; wings marked with a large lateral patch of white; tail a little forked; bill and legs brown. The female is yellow where the male is orange; the black streaks are also more obscure and less numerous.

The Hermit Thrush. (*Turdus pallasii.*)

Fig. 5.

This shy, but exquisite songster, known also as the "Swamp Angel" and the "Swamp Robin," like nearly all birds gifted with

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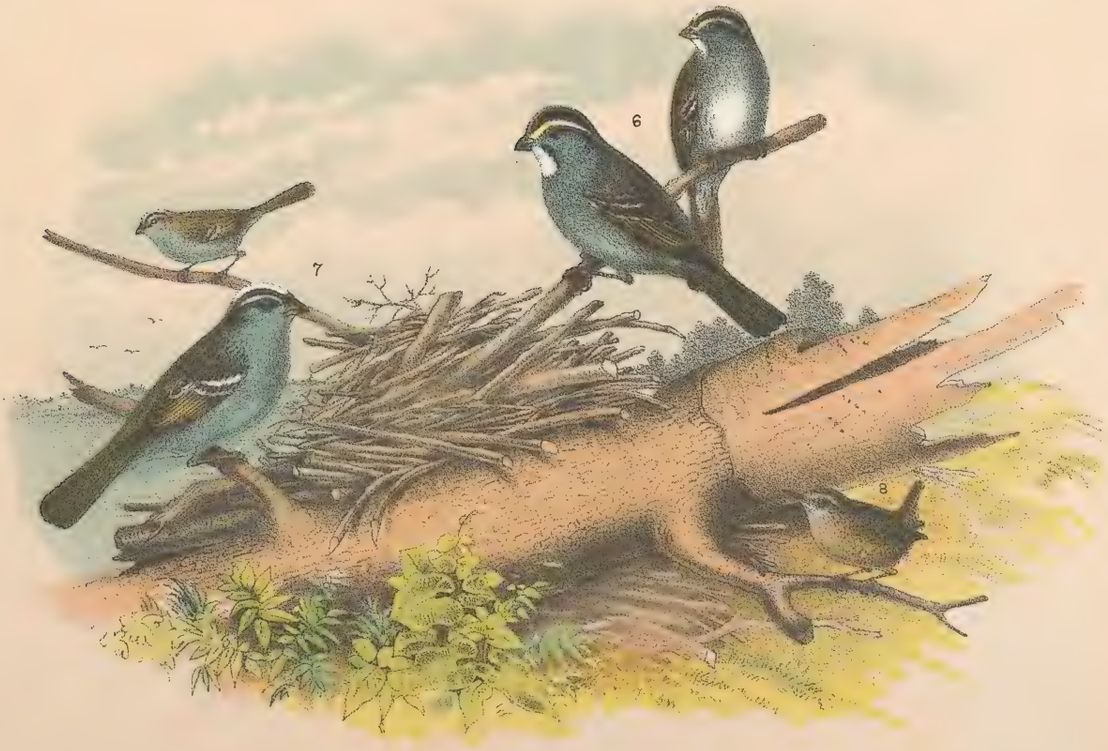
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the powers of song, is exceedingly plain in his apparel. His under parts are white, anteriorly touched with the slightest tint of buff; sides olive; fore part of the breast and sides of the throat distinctly marked with sub-triangular spots of dark olive-brown, with bill of a dusky yellowish hue. Length about seven inches, wing three and one-half, tail two and one-fourth inches. The range of the Hermit Thrush is from the Mississippi eastward throughout North America to the arctic regions. It is, however, a rare bird, exceedingly shy and secluded in its habits, though, when captured young, is easily tamed. Fearful and retiring in the presence of man, it attacks its natural enemy, the hawk, with great vigor and courage, forcing him to retire discomfited. Its favorite winter haunts are in the Southern States, where great numbers may be found, and in Southern Illinois it has been observed at this season as far north as latitude 38°. It is one of the earliest of our migratory birds, arriving in Maine, where it breeds in vast numbers, by the middle of April. Its return journey is performed during the latter part of October. When migrating, they fly in small straggling parties, and never indulge in song.

During its season of courtship, it is rarely to be met with outside of the deepest and most remote forests, and nearly always in damp and swampy localities. Its nests are nearly always built upon the ground, in open places, or under low spreading brush, and near its favorite swamp. It is composed of dead leaves, dried grasses, and twigs, and is lined with the inner peelings of bark, fine soft sedges, and grasses. The eggs vary from four to five in number, and are uniform in color, being of a bluish-green, varying from .88 to .94 in length by .63.

Both Wilson and Audubon were unfamiliar with the wonderful gift of song with which this bird is possessed. Wilson says it has "only in spring an occasional squeak, like that of a young stray chicken." Audubon's testimony is equally erroneous. "The Hermit Thrush," he says, "has no song, and only utters a soft, plaintive note, seldom heard at a greater distance than twenty-five or thirty yards." With the exception of the Wood Thrush, we have no bird to compare with the Hermit Thrush in the beauty and melody of his song. It begins low, sweet, and exceedingly soft, and, rising, ends abruptly in the highest, the sharpest of ringing notes. No silver horn, no tinkling bell, ever emitted purer notes. Mr. Burroughs describes his song in words so fitting that we can not resist the temptation to quote them. "I often hear him," he says, "a long way off, sometimes over a quarter of a mile away, when only the stronger and more perfect parts of his music reach me; and, through the general chorus of wrens and warblers, I detect his song, rising pure and serene, as if a spirit from some remote height were slowly chanting a divine accompaniment. This song appeals to the sentiment of the beautiful in me, and suggests a serene religious beatitude, as no other sound in nature does. It is, perhaps, more of an evening than a morning hymn, though I hear it all hours of the day. It is very simple, and I can hardly tell the secret of its charm. 'O spheral, spheral!' he seems to say. 'O holy, holy! O clear away, clear away! O clear up, clear up!' interspersed with the finest trills and the most delicate preludes. It is not a proud, gorgeous strain, like the Tanager's or the Grosbeak's; suggests no passion or emotion—nothing personal; but seems to be the voice of that calm, sweet solemnity one attains to in his best moments. It realizes a peace and a deep solemn joy that only the finest souls may know."

The White-throated Sparrow, or Peabody-bird. (*Zonotrichia albicollis.*)

Fig. 6.

This beautiful Sparrow is easily recognized by the two black stripes on his crown separated by one of white, and by his pure white throat, sharply defined against the dark ash of the breast and sides of the neck and head. His back is continuously streaked with black, chestnut, and tawny white; rump ashy, destitute of markings; edge of the wings yellow; belly white. Length about seven inches, and nine inches across the wings; tail from three to four inches. The range of the White-throated Sparrow compasses all parts of North America from the Great Plains, east, north, and south, touching the Gulf of Mexico, the Atlantic, and the extreme arctic regions. It winters in the Southern States, being found there in great abundance from October to May, where, according to Audubon, it is considered a great delicacy. Its favorite breeding places are from 44° latitude north, where it arrives from the 1st to the 20th of May. The nest is usually built upon the ground, in various situations, in swampy thickets, in pasture cradle-holes, and sometimes in the hollow of decayed stumps. It is large, deep, and roomy, constructed of moss, grasses, twigs, and lined with hair, feathers, and silken grasses. The eggs are usually four in number, sometimes ranging as high as seven, of a greenish-white, and blotched all over with a rusty brown. The White-throated Sparrow produces but one brood during the season. It is gregarious in its habits, and may be seen in flocks, near moist thickets. Its song would be very pleasing were it more varied. In confinement, they become very tame, and, during the spring months, sing night and day. They are very abundant among the White Mountains, and are known there as the Peabody-bird. Dr. Brewer says of its song, that it "is rather sprightly and pleasing than plaintive;" that "in each case their refrain is measured by twelve syllables, but these versions bear but a slight resemblance to the real notes;" and that "they are repeated quite constantly, and with little or no variation, and soon become monotonous." He interprets his song as follows: "I—*have—got—plenty—to-e-at, but no che-eze.*" Samuels, however, claims for his song real beauty. He tells us that "it is difficult of description, but resembles nearly the syllables '*chê a dêe de; dê-d-de, dê-d-de, dê-d-de, dê-d-de*, uttered at first loud and clear, and rapidly falling in tone and decreasing in volume."

No sooner do these welcome visitors arrive than every hedge and fence is alive with them. They form parties of some forty or fifty birds, and fly down from time to time upon the surrounding district in search of food; hopping gaily about as they peck the small grass-seeds that constitute their principal nourishment, and hurrying back to their perch at the first intimation of danger. Nothing can be more amicable than the terms on which they seem to live. The time between their excursions over the field is passed, not in noisy strife, but in pouring forth a constant flow of song, so sweet as to please the ears of the most indifferent or unmusical listener. At early dawn, the little community is roused by a peculiar shrill warning cry, somewhat resembling the syllable "twit." This is uttered during the night, when, no doubt, it is intended as an intimation that all is well. Should the day be warm, the whole flock seek shelter in the woods, and deport themselves upon the branches of the wild vine—rarely, however, flying to any great distance from their usual haunts.

The White-throated Sparrow is always an ornament to any landscape, and his melody is ever charming. His food is chiefly of insects, the farmer's pests, varying it occasionally with a few berries and small seed.

The White-crowned Sparrow. (*Zonotrichia leucophrys.*)

Fig. 7.

The portraiture of this species was made from a beautiful specimen presented by Dr. J. M. Wheaton, Ornithologist of the Ohio State Geological Survey. Its characteristics are similar to the White-throated Sparrow, but not so abundant. The male is about seven inches and a half long, and ten inches broad; the bill is a cinnamon-brown; the crown is a pure white, bounded on each side by a narrow stripe of black, then again by a narrow stripe of white passing over the eye; the chin is white; the breast, sides of the neck, and the upper parts pale ash color; the back streaked with

dark rusty brown, with a bluish tinge; the greater and lesser wing-coverts are tipped broadly with white, forming two handsome white bands across the wings; the rump and tail-coverts are drab, tipped with lighter color; tail rounded, and of a dusky color, edged with drab; belly white; vent pale ochre; legs and feet reddish-brown; eye hazel; the lower eyelid white.

The Winter Wren. (*Troglodytes hyemalis.*)

Fig. 8.

This bird, which is one of our smallest species, can never be mistaken when once seen. His back is a deep rufous-brown, darkest on the head, brightest on the rump and tail; head and neck plain; the rest marked with numerous short dusky, sometimes whitish, interrupted bars. Wings dusky, dark-barred, and edged with rufous. Below, dark-brown, with belly, flanks, and under tail-coverts strongly marked with dusky and whitish. Length from three to four inches, wing about two, tail one and one-half inches. The Winter Wren is not an abundant bird, but is found everywhere in the United States. It is only partially migratory, many of them passing the whole year near their breeding places. It is the most abundant of winter birds on the Pacific coast, braving the long, damp, and dreary winters of Oregon and Washington Territory, retiring to the mountains on the approach of spring, for the purpose of breeding. It breeds all along Central New York, the beautiful shores of Oneida Lake being one of its favorite spots. Its nest is a most wonderful piece of architecture. It is pouch-shape, composed of moss and lichens, two inches or more in thickness, very large and deep, and lined with bits of fur and the feathers of various birds. The eggs are usually five in number, and pure white, marked with purplish slate blotches and reddish-brown spots. Audubon describes one, found at the foot of a tree, as "a protuberance covered with moss and lichens, resembling those excrescences which are often seen on our forest-trees, with this difference, that the aperture was perfectly rounded, clean, and quite smooth. I put my finger into it, and felt the pecking of a bird's bill, while a querulous cry was emitted." Shy, active, inquisitive, this little bird is ever on the alert. I have followed one for rods and rods along an old stone fence, in some upland pasture, and have been barely able to keep him in sight. Darting in and out the stone wall, hopping, skipping, forever in motion, his little short tail, like a cockade, stuck straight in air, he wins your affection and your admiration at once; and that must be a miserable scamp who would aim a shot-gun at this beautiful and harmless little creature. His song, too, is a marvel. Where, in all that little bundle of brown feathers, can so much melody be hid? Alike unconscious and unambitious, coy and retiring, in his moments of pleasure he will pour forth a song at once fluent and copious, and instinct with the purest rhythms. The notes vibrate, melt to the sweetest plaintiveness, and leave on the memory only the sweetest of emotions.

The Winter Wren is closely allied to the common Wren of Europe. It has a most charming mythical history, and the kindliest mention in all literatures. In Germany, he is called the Zaun König—Hedge King. Grimm, in his delightful Folk Lore tales, has gathered some of the fables told of him in that country. Both Aristotle and Pliny speak of him as disputing with the Eagle the sovereignty of the feathered creation.

Considering the diminutive size of this bird, and his retiring habits, it is singular that the title of King should so universally have been given him. The French call him Roitelet—Little King. The Greeks gave him the same title, *Βασιλίσκος*—Little King; the Romans, *Regulus;* the Swedes, *Kungs-fogel*—King's Fowl; the Danes, *Fugle-kong*—Fowl-king; the Dutch, *Winter Koninkje*—little Winter King. A most charming essay might be written on this little bird, the material being most abundant, but our limited space forbids following the subject further.

PLATE XXXVII.

The Blue-gray Gnatcatcher. (*Polioptila cærulea.*)

Fig. 1.

This active and sprightly little bird would rank among the most diminutive species were it not for the length of the tail. It is commonly seen in the tops of tall trees. Its motions are rapid and incessant, appearing most always in quest of prey, darting from bough to bough, with hanging wings and elevated tail, uttering only at times a feeble song, or squeaking notes of "*tree, tree, tree.*" Its first visits are paid to the blooming willows along the borders of water-courses. This species is also very dexterous as a fly-catcher, and, by some good authors on ornithology, it is classed among the Fly-catchers. According to Wilson, it builds its nest about the beginning of May, the time it arrives in the Middle States from the South, which it generally fixes among the twigs of a tree, sometimes at the height of ten feet from the ground, and sometimes fifty feet high, on the extremities of the tops of a high tree in the woods. This nest is formed of very slight and perishable materials—the husks of buds, stems of old leaves, withered blossoms of weeds, and down from the stalks of fern, coated on the outside with gray lichen, and lined with a few horse-hairs.

The length of this species is four and a half inches, and about six and a half inches broad. Front line over the eye and bill black; the latter somewhat notched at the tip. The plumage above, light bluish-gray, brightest on the head; below, bluish-white and pale (white in the females). Tail edged with blue; its coverts black. Wings brownish-black; some of the secondaries next the body edged with white. Legs pale blue. Iris hazel.

The Black-throated Green Warbler. (*Dendroica virens.*)

Fig. 2.

This acknowledged lively and active little species frequents the high branches and tops of trees, in the woods, in search of the larvæ of insects that prey on the opening buds. Their song, consisting of a few singular chirping notes, resembles the syllables *'te dé ter-ĭtscá*, sometimes *te derisca*, pronounced pretty loud and slow, and the tones proceed from high to low. This note is very much like the call of the Chickadee, and at times both are heard amidst the reigning silence of the summer moon. It is said to be abundant in the forests of the eastern part of the United States.

This bird is five inches long and seven inches broad. The back, crown, and hind head clear yellow-olive; front, cheeks, sides of the breast, and line over the eye pure yellow; chin and throat black; the sides under the wings are spotted with black; belly and vent are white; the wings dusky black, marked with two white bars. Tail dusky, edged with light ash color; the thin exterior feathers spotted on their inner webs with white, as appears in most Warblers. The legs and feet are brownish-yellow; the iris of the eye deep brown or blue.

The Blue or Cerulean Warbler. (*Dendroica cærulea.*)

Fig. 3.

This is another very delicately plumaged species of Warbler, and is amongst the rarest summer residents of the Atlantic States. It is very abundant in the Southern States. During summer, it visits the Middle States, retiring early in the fall. This species also has many of the habits of the Fly-catcher, warbling at times in a lively manner; and, though its song be short, it is at the same time sweet and mellow.

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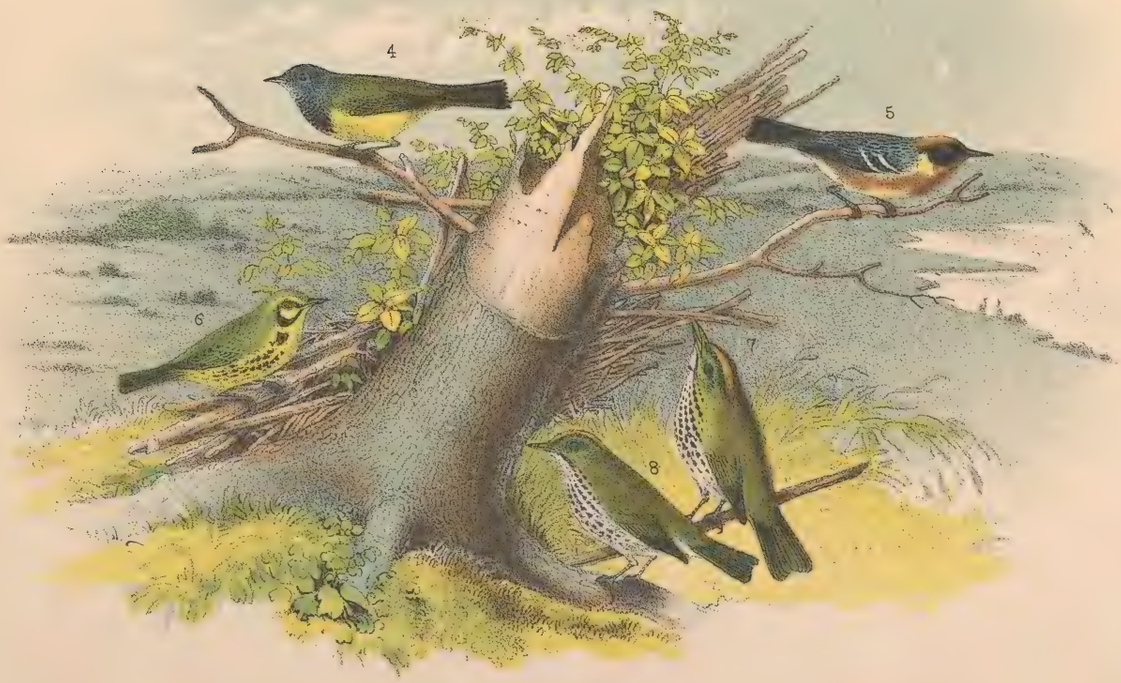
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This bird is four and a half inches long, and seven and a half inches broad. Front, upper part of the head, and back verditer-blue, with a few streaks of black on the upper part of the back. Wings and tail black, edged with pale blue. Tail forked; a white spot in the five lateral feathers on each side; the two middle more slightly marked with the same. From the eye backward a line of dusky blue. Bill dusky above, light blue below. Legs and feet light blue.

The Mourning Warbler. (*Geothlypis philadelphia.*)

Fig. 4.

This very rare species of Warbler was first discovered by Wilson. In its habits of frequenting marshy ground, and flitting through low bushes, in quest of insects, it appears very similar to the Maryland Yellow-throat. The discoverer, however, also distinguished it more importantly by the novelty of its sprightly and pleasant warble. Nuttall says: "It possessed all the manners of the common species, was equally busy in search of insects in the low bushes, and, at little intervals, warbled out some very pleasant notes, which, though they resembled the lively chant of the Maryland Yellow-throat, even to the *wetitshee*, yet they were more agreeably varied, so as to approach in some degree the song of the Summer Yellow-bird."

This species is five inches long and seven inches broad. Bill is brownish-black above, and dusky below; iris hazel; head of a dull brownish slate color; the back, head, and tail a deep greenish-olive; the tips of the wings and the center of the tail-feathers are brownish; crescent of the breast formed of alternate transverse lines of pure white and deep black; below, pure yellow. Legs and feet (as in the Maryland Yellow-throat) pale flesh-color.

The Bay-breasted or Autumnal Warbler. (*Dendroica castanea.*)

Fig. 5.

This is another very rare species of Warbler. According to Bonaparte, discovered and first described by Wilson. It is an active insect-hunter, and keeps much toward the tops of the highest trees, where it darts about with great activity, and hangs from the twigs, with fluttering wings. It has many of the habits and manners of the Titmouse.

This species is five inches long, and ten and one-half inches broad. Bill black; iris hazel; the crown a very bright bay; beneath, except the sides, dull yellowish-white; hind head and back streaked with black, on a grayish-buff ground; wings brownish-black, with two bars of white; tail forked, brownish-black, edged with ash. Behind the eye is a broad oblong spot of yellowish-white, inclining to buff. Legs dusky, and the claws are extremely sharp-pointed, for easy climbing and hanging.

The Prairie Warbler. (*Dendroica discolor.*)

Fig. 6.

This species is considered abundant in the Middle and Southern States, and east as far as Massachusetts. It may generally be found in sparse low woodlands, cedar thickets, and old fields grown up to scrub-pines. It is remarkable for its quaint and curious song. Their slender filing notes, which are uttered every half-minute, resemble the suppressed syllables *'tsh*, *'tsh*, *'tsh*, *'tshêâ*, beginning low and gradually growing louder, having nearly the same slender whistle as the species Black-poll Warbler. It is said to be an expert fly-catcher, constantly darting into the air in pursuit of winged insects.

Maynard, in his valuable work, "The Birds of Florida," says: "The Prairie Warblers were very abundant in the dense thickets on the islands of Key West during the autumn and early winter of 1870. They frequented the drier portions of the Key, but did not sing. A little later, in February, I found them common in the mangrove swamps along the coast of the mainland. . . . . Although these birds are found in localities of this description in Southern Florida, those which migrate northward pass over the drier portions of the state, and I found them associating with other Warblers in the thickly-wooded hammocks on Indian River. In Massachusetts, however, they prefer an entirely different kind of country, for they are always found in dry fields which have partly grown up to bushes. Here they build their nests, in June, commonly placing them in a bush but a few feet from the ground. The song of the Prairie Warbler is singular, and quite unlike that of any other member of the family, for the birds trill a species of musical scale, commencing low down and ascending rapidly. The notes are indescribable, but, if once heard, will not easily be forgotten."

The Prairie Warbler is about five inches long and seven inches broad. Above, yellow-olive, inclining to green, and considerably brighter on the crown; a few pale-bay spots, mingled with the olive on the upper part of the back. From the nostrils, over and under the eye, yellow; lores black—below, rich yellow; vent pale yellow; wings dusky; coverts edged and tipped with pale yellow; the primaries and greater wing-coverts edged and tipped with light yellow; the second row of coverts is wholly yellow; the lesser coverts olive; the tail is brownish-black, but lighter on the edges; the three outer feathers are broadly spotted with white.

The Golden-crowned Thrush or Oven-bird. (*Sciurus aurocapillus*)

Fig. 7, Male. Fig. 8, Female.

A very common species of Eastern North America, Alaska, Mexico, and the West Indies. It may be found mostly in open woodland, devoting much of its time on the ground, rustling among the leaves. During summer it may be found throughout the forests of the United States and Canada, arriving in the Middle and Northern States about the beginning of May or last of April, and departing for tropical America, Mexico, Jamaica, Hispaniola, and other West India islands early in September. According to Nuttall: "The Golden-crowned Thrush, shy and retiring, is never seen out of the shade of the woods, and sits and runs along the ground often like the Lark. It also frequents the branches of trees, and sometimes moves its tail in the manner of the Wagtails. It has few pretensions to song, and, while perched in the deep and shady part of the forest, it utters, at intervals, a simple, long reiterated note of *'tshe*, *tshe*, *tshe*, *tshe*, *tshe*, rising from low to high and shrill, so as to give but little idea of the distance or place from whence the sound proceeds, and often appearing, from the loudness of the closing cadence, to be much nearer than it really is. As soon as discovered, like the Wood-thrush, it darts at once timidly into the depths of its sylvan retreat. During the period of incubation, the deliberate lay of the male, from some horizontal branch of the forest-tree, where he often sits usually still, is a *'tshe*, *te tshe*, *tĕ tshe*, *tĕ tshee*, gradually rising and growing louder. Toward dusk in the evening, however, it now and then utters a sudden burst of notes, with a short, agreeable warble, which terminates commonly in the usual *'tshe*, *te tshe*. Its curious oven-shaped nest (whence the name 'Oven-bird') is known to all the sportsmen who traverse the solitary wilds which it inhabits. This ingenious fabric is sunk a little into the ground, and generally situated on some dry and mossy bank contiguous to bushes, or on an uncleared surface. It is formed with great neatness of dry blades of grass, and lined with the same. It is then surmounted by a thick inclined roof of similar materials; the surface scattered with leaves and twigs, so as to match the rest of the ground, and an entrance is left at the side." According to Wilson: "When

alarmed, it escapes from the nest in great silence and rapidity, running along the ground like a worm, as if afraid to tread too heavily on the leaves. If you stop to examine its nest, it also stops, droops its wings, flutters, and tumbles along, as if hardly able to crawl, looking back now and then to see whether you are taking notice of it. If you slowly follow, it leads you fifty or sixty yards off, in a direct line from its nest, seeming at every advance to be gaining fresh strength; and when it thinks it has decoyed you to a sufficient distance, it suddenly wheels off and disappears."

The Cow-pen Bunting frequently selects this bird to act the part of a foster parent to its young. It deposits its eggs in the nest, and leaves the result to the tender mercy of the Thrush, who generally performs the duties with care.

This species is six inches long, and nine inches from tip to tip of wing. Below, pure white, the breast covered with deep-brown pencil-shaped spots; above, rich yellow-olive; the tips of the wings and inner vanes of the quills dusky brown; the three first primaries are about equal; from the nostrils a dusky line passes to the hind head; crown brownish orange; legs pale flesh color; bill dusky.

PLATE XXXVIII.

The Chestnut-sided Warbler. (*Dendroica pennsylvanica.*)

Fig. 1, Male. Fig. 2, Female.

This is one of our rare and beautiful species that probably winter in tropical America. It generally appears in the Middle and Eastern States early in May, on its way to breed. In Canada and around Hudson's Bay, they may be seen in the spring. According to Dr. Coues, "They are abundant in woodland in the eastern part of the United States." According to Wilson: "It is one of those transient visitors that pass through Pennsylvania in April and May, on their way farther north to breed. During its stay here, which seldom exceeds a week or ten days, it appears actively engaged among the opening buds and young leaves, in search of insects; has no song but a feeble chirp or twitter, and is not numerous." According to Nuttall: "A few remain, no doubt to rear their young, in secluded mountainous situations in the Northern States. The note of the male was very similar to that of the Summer Yellow-bird, being only a little louder and less whistling. It resembles *'tsh*, *'tsh*, *tsh*, *'tshyïa*, given at about an interval of half a minute, and answered by his mate at some distance, near which, it is probable, there was a nest. He appeared to be no way suspicious of our approach. His restlessness was subdued, and he quietly sat near the same low bushes, amusing himself and his consort for an hour at a time, with the display of his lively and simple ditty."

The length of this species is about five inches, and about eight inches broad; the bill is black; the iris dark hazel; the front line over the eye and ear-feathers pure white; the crown is a brilliant yellow; a triangular patch of black beneath the eye and connected with the lores; the hind head and back are streaked with gray, an obscure black, and a dull yellow; feathers of the back and rump black, edged with greenish-yellow. The wings are dusky, the primaries edged with whitish; the first and second row of coverts broadly tipped with pale yellow; the secondaries edged with greenish-yellow. The tail is forked, dusky exteriorly, edged with ash or with greenish-gray. Sides, from the back beneath the eye to the thighs, furnished with a broad stripe of bright chestnut; the rest of the parts below, pure white. The legs and feet are of a light-ash color.

The Black-polled Warb'er. (*Dendroica striata.*)

Fig. 3.

This species is one of those silent, shy, and solitary birds that mostly seek the deep retreats of the forest, and are not very generally known to the public. It is said when the Black-polls appear in force, the collecting season is about over. Wilson says: "This bird may be considered as occupying an intermediate station between the Fly-catchers and the Warblers, having the manners of the former, and the bill, partially, of the latter. The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will forever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist."

This species is an active insect-hunter, and keeps much toward the tops of the highest trees, where it darts about with great activity, and hangs from the twigs with fluttering wings. Audubon says:

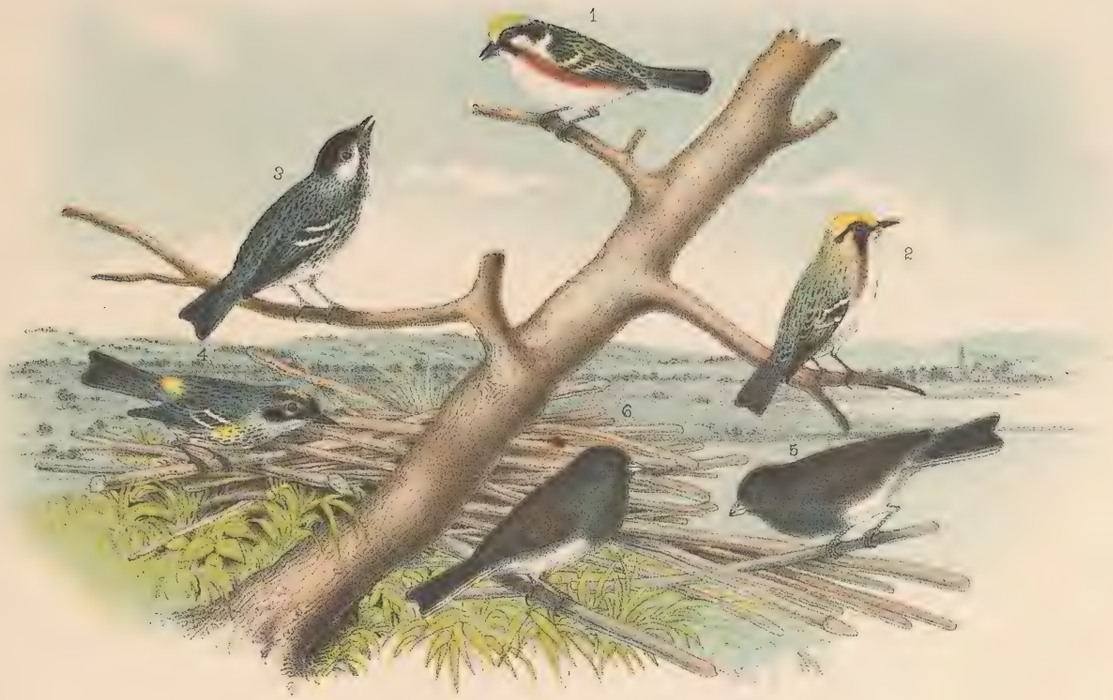
"It enters Louisiana as early as the middle of February. At this time it is seen gleaning food among the taller branches of the willows, maples, and other trees that overhang the rivers and lakes. Its migrations eastward follow the advance of the season, and I have not been able to comprehend why it is never seen in the maritime parts of South Carolina, while it is abundantly found in the State of New Jersey close to the sea-shore. There you would think that it had changed its habits; for, instead of skipping among the taller branches of trees, it is seen moving along the trunks and large limbs, almost in the manner of a Certhia, searching the chinks of the bark for larvæ and pupæ. They are met with in groups of ten, twelve, or more, in the end of April, but after that period few are to be seen. In Massachusetts, they begin to appear nearly a month later, the intervening time being no doubt spent on their passage through New York and Connecticut. I found them, at the end of May, in the eastern part of Maine, and met with them wherever we landed on our voyage to Labrador, where they arrive from the 1st to the 10th of June, throwing themselves into every valley covered by those thickets, which they prefer for their breeding places. It also breeds abundantly in Newfoundland.

"In these countries, it has almost become a Fly-catcher. You see it darting in all directions after insects, chasing them on wing, and not unfrequently snapping, so as to emit the clicking sound characteristic of the true Fly-catcher. Its activity is pleasing, but its notes have no title to be called a song. They are shrill, and resemble the noise made by striking two small pebbles together, more than any other sound that I know. They may be in some degree imitated by pronouncing the syllable *sche*, *sche*, *sche*, *sche*, so as progressively to increase the emphasis."

According to Maynard—"In April, when the great Magnolia is in full bloom, the Black-polled Warblers may be found in Florida. Later, in May, when all the apple orchards of New England are snowy with blossoms, the same birds appear and linger a time, then depart for the north, arriving in the British Provinces and Labrador when nature has assumed her most festive garb."

The Black-poll Warbler is a gentle bird, by no means afraid of man, although it pursues some of its smaller enemies with considerable courage. The sight of a Canadian Jay excites it greatly, as that marauder often sucks its eggs or swallows its young.

This species is five and one-half inches long, and eight and a half inches broad. Whole crown pure black, upper parts streaked with black and grayish-white; cheeks white; below the eye, from the lower mandible, runs a streak of small black spots—the rest of the lower parts white; primaries black, with greenish-yellow at the end, the first and second coverts broadly tipped with white; tail black, edged with ash; vent white; upper mandible black; lower mandible, legs, and feet flesh-color; iris hazel.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The Yellow-rumped Warbler. (*Dendroeca coronata.*)

Fig. 4.

This species is also known by the name of Yellow-crowned Warbler and Myrtle-bird. It is one of the most numerous winter birds of the Southern States, where it passes the season in the myrtle swamps and the hummocks of the mainland. In the Middle and Northern States, it is a bird of passage, arriving from the South the latter part of April, and proceeding north as far as Canada and Labrador to pass the summer season in the cares of breeding and rearing their young. After an absence of about three months, they again appear, and continue to remain in the Middle and Northern States, in gardens and woods, till about the close of November, feeding almost exclusively on the myrtle wax-berries, or on those of the Virginian juniper. In fine weather, in the earlier part of October, they may be seen collecting grass-hoppers and moths from the meadows and pastures. They often watch for the appearance of their prey from a neighboring stake or fence-rail; and, at this time, are so familiar and unsuspicious as fearlessly to approach almost within the reach of the silent spectator. While feeding, they are very active, in the manner of Fly-catchers, hovering among the cedars and myrtles, with hanging wings, and only rest when satisfied with gleaning food. Of its song, Nuttall says: "This beautiful species . . . frequents the orchards, uttering, at short intervals, in the morning, a sweet and varied, rather plaintive warble, resembling in part the song of the Summer Yellow-bird, but much more the farewell, solitary autumnal notes of the Robin Redbreast of Europe. The tones, at times, are also so ventriloquial and variable in elevation that it is not always easy to ascertain the spot from whence they proceed." This species may also be seen in Mexico and Central America. The length of the male bird is about five inches and a half, its breadth about eight inches.

The Snow-bird. (*Junco hyemalis.*)

Fig. 5, Male. Fig. 6, Female.

This species is one of our most common and numerous Sparrows. It arrives in flocks from the northern regions in the United States about the middle of October, and their appearance is looked upon as the sign of approaching winter. "I have traveled," says Wilson, "over the country, from North Maine to Georgia, a distance of 1,800 miles, but I do not think there was a day, or indeed an hour, in which I did not see a flock of these birds, often numbering thousands; and several travelers with whom I conversed gave me similar accounts of their experience." The Snow-bird is an inhabitant of the northern mountains of America, where it builds its nest, and from thence it wanders south when winter closes in. It will also occasionally migrate as far as Europe; and Temminck assures us that several have been captured in Iceland, and it is upon this authority that it is reckoned amongst European birds. As stated above, these birds are seen in the United States about October, departing in April, and migrating by night. Hosts of them are found early in the morning, in localities where not one was to be seen the evening before. On first arriving, they fly about the outskirts of the woods and hedges, in parties of from twenty to thirty, but at a later period assemble in flocks of some thousands. As long as the ground is uncovered, they feed upon grass seed, berries, and insects, and are often to be found in company with Partridges, Wild Turkeys, and even Squirrels, but as soon as the snow begins to fall, Snow-birds make their appearance in the farm-yards, open roads, and streets of the town, and place themselves under the protection of man, who shows how much he is to be trusted by capturing hundreds of these diminutive creatures. Still, this bird has more friends than enemies, and many regard it with affection. Its confidence in man is so great, that it will allow a horseman or foot-passenger to approach quite close to it in the street, only flying away if it has reason to think it will be molested. Thus it lives until the winter is passed, when it quits the towns and villages for its favorite mountain or native haunts.

The Snow-birds seldom join company with other birds, though in the villages and farm-yards they will associate with the so-called "Song Sparrow" and domestic fowls, keeping, however, somewhat apart. They pass the night, either perched upon a tree or in a hole, and often make a place for themselves in stacks of corn. In their movements, the Snow-birds much resemble the Sparrows, and hop very lightly over the ground, testifying great readiness to engage any of their kind in single combat. As soon as these birds return to their native places, the work of incubation commences, and the males are constantly engaged in furious contentions, chasing each other through the trees, with wings and tail outspread, and thus exhibiting their plumage in all its varied beauty. At such times, their simple but pleasing song is at its best, its principal feature being low, drawn-out notes, that are not unlike the twitter of a young Canary. When about to build, the little pair seek a quiet spot in which to make their nest, preferring a rock thickly covered with bushes; and then, upon the ground, they construct their home, forming it of twigs and grass, and lining the interior most delicately with fine moss and horse-hair. The four eggs, of which a brood consists, are of a yellowish color, thickly covered with reddish spots, and measure five-eighths of an inch across the broadest end. Both parents tend their young with great care, feeding them for some time after they leave the nest, and warning them of danger by a peculiar cry The Sparrow Hawk may be regarded as the most formidable of their many enemies. Wilson mentions having seen this bird continually hovering in their neighborhood, watching for a favorable opportunity, and when the proper moment arrived, the destroyer would swoop down upon its victim, seize it, and carry it to the nearest tree to be devoured. The length of the male bird is five inches and three-quarters, its breadth nearly seven inches; the female is five and a half inches in length, and eight and a quarter across.

The Red, or American Cross-bill. (*Curvirostra americana.*)

Fig. 7, Male. Fig. 8, Female.

This remarkably formed species is an inhabitant of both continents. Those in North America are considered the dwarfs of the family, on account of the smallness of their size. "On first glancing," says Wilson, "at the bill of this extraordinary bird, one is apt to pronounce it deformed and monstrous; but, on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine-tree from the cone and from the husks that inclose them, we are obliged to confess that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator." The Cross-bills always inhabit pine-forests, as their food consists entirely of the seeds of the pine, fir, and larch. They are consequently more numerous in the North than in the South, seeing that in northern latitudes these trees are met with over a far wider extent of country than elsewhere. When the cones are abundant, they visit in great numbers many places where they have not been for years, appearing at irregular intervals, and not confining themselves to any particular localities. Should the situation be suitable, they will proceed at once to breed; otherwise, they merely tarry for a short time, and then pass on to a more desirable resting-place. The most favorable spots in the woods are soon taken possession of to serve as their headquarters, from whence they fly over the surrounding

country, returning to settle upon the same trees in the evening. They are very social, living in pairs in the breeding season; but even during that period, will sometimes associate in considerable numbers. Their nests are made among the branches of fir-trees, and there they disport themselves gayly, climing nimbly, and assisting their movements, as parrots do, with their beaks. They will hang for minutes together head downward, clinging to a twig or cone, seeming to enjoy this apparently uncomfortable position. Their movements, when on the wing, are undulating and rapid, but they never fly to any great distance. The pleasure they experience in the society of their mate is often testified by fluttering over the tops of the trees as they sing, after which they hover for a time, and then descend slowly to thei perch. In the daytime they are generally in motion, with the exception of a short time at noon. During the spring, summer, and autumn, they pass their time in flying from one plantation or mountain to another. In winter, if the cold is extreme, they remain much longer in their sleeping-place, only coming abroad after the sun has warmed the earth, though they commence their song early in the morning. At this season they make their first appearance about ten o'clock, and are soon busily employed in search of food; about two o'clock they become quieter, seek food again at four o'clock, and then go to roost. The Cross-bill troubles itself but little about the other inhabitants of the woods, and is almost fearless of man, whom it is very evident it has not learnt to regard as an enemy. Should a female be shot, its mate will remain sorrowfully perched upon the branch from which his little companion has fallen, or again and again visit the spot where she was killed, in the hope of finding her; indeed, it is only after repeated proofs of the treachery of mankind that he begins to testify any symptom of shyness. When placed in a cage, the Cross-bills become exceedingly tame, appearing entirely to forget the loss of their freedom, and grow so fond of those they are with as to obey them in everything, allowing themselves to be touched, or even carried about the room on the hand, and demonstrating their confidence in a variety of ways, so that the inhabitants of mountainous districts are usually much attached to these gentle little creatures.

The Pine Grosbeak. (*Pinicola enucleator.*)

Fig. 9, Male. Fig. 10, Female.

This species is an inhabitant of northern North America, and appears generally in flocks, in the pine-woods, in the United States, in winter; and is also to be seen in the Sierra Nevada of California. When these birds first come among us they are harmless, confiding creatures, who have not yet experienced the artifices of man, never offering to stir if a stranger or hunter approach the trees on which they are perched, and will stare at the gun destined for their destruction, without thinking of flight, even should one of their companions be shot down from the same branch. Persons have tried successfully to catch them by means of snares fastened to the end of poles, by the aid of which they could be thrown over the heads of birds; indeed, the clumsiest kind of trap is all that is required to catch these unsuspicious little wanderers. The most touching tales are told of the attachment of the Pine Grosbeak to its mate. On one occasion, three out of a party of four had been captured, when, to the astonishment of all, the fourth crept into the net, in order to share the fate of its companions. It must not be imagined, however, that these birds are really foolish; for experience soon teaches them its lessons, and they become distrustful, shy, and cautious. In its habits, the Pine Grosbeak often reminds one of the Cross-bill. It is essentially a tree-bird, being quite at home upon a branch, but uneasy and out of place on the ground. It can climb skillfully from one bough to another, hopping with ease to tolerably distant branches. Its flight is rapid, and, like that of most Finches, rather undulating, and it hovers before perching. Its voice is flute-like and expressive, resembling that of the Bullfinch, and its song, which may be heard throughout the whole of the winter, is very varied and pleasing, on account of its soft, clear notes. In winter, we do not hear it in perfection, as it is then low and disjointed; but in spring, when the male rouses all his energies to cheer his little mate, his tones would satisfy the most fastidious critic. It sings during the clear light summer nights, and on that account is called "the Watchman." This bird has many other good qualities, and, owing to its gentle, confiding temperament, may be easily tamed, if properly treated. It becomes, in a few days, accustomed to confinement, taking its food readily from the hand, and will allow itself to be stroked, or even carried about the room, all the time testifying its happiness and content. It is an interesting sight to see a male and female bird in one cage, for their tenderness toward each other is extreme; but, alas! in one point they are deficient—they do not survive the loss of their freedom for any considerable length of time, and pine away rapidly, especially when their keepers forget that these children of the North must have fresh, cold air, and foolishly confine them in hot rooms. The length of this bird is about nine inches, three of which belong to the tail; the breadth across the wings varies from thirteen to fourteen inches, and the wing measures four and a half inches from the shoulder to the tip.

PLATE XXXIX.

The Sparrow Hawk, or Rusty-crowned Falcon. (*Falco sparverius.*)

Fig. 1, Male. Fig. 2, Female.

This elegant and singularly marked little Hawk is at once recognized by the smallness of its size and the peculiarity of its plumage. They are a constant resident in almost every part of the United States, and are particularly abundant in the Southern States in winter, wandering in summer as far as the Rocky Mountains. The nest is built in a hollow, shattered, or decayed tree, at a considerable elevation; the eggs are usually four or five in number, of a light brownish-yellow, and spotted with brown.

This species is a frequent visitor to the farm-house and barn-yard, where it is most commonly seen perched on some dead branch, or on a pole or stalk in the fields, often a little distance from the ground, keeping up a constant agitation of the tail, and attentively watching for the approach of some unlucky mouse or mole, or even for beetles or grasshoppers, upon which it pounces with great quickness, and immediately returns to its stand to devour it. When changing its position, it flies low until within a few yards of the spot upon which it wishes to settle, when it suddenly rises with an easy curve and alights with the utmost grace, closing its wings with the rapidity of thought. Sometimes a Sparrow or Finch crosses its pathway, when the little Hawk, all anxiety to secure so great a prize, at once gives chase, and soon overtaking it, bears it off to share the dainty morsel with its mate and young. Instances have been recorded in which this Hawk has been so eager in the pursuit of its prey as to follow the victim even into a house or wagon, and even going so far as to dart into a railway car when in rapid motion, in order to secure its prize. In so much dread is this formidable enemy held by the objects of its attack, that on its approach some birds will throw themselves, as though dead, upon the ground; others will make for their hiding-place with such devious turnings from the direct path as baffle even the skillful steering of their pursuer, and then dart into the inmost recesses of some protecting bush, and thus place themselves for the time in safety. "The Blue Jay," says Wilson, "has a particular antipathy to this bird, and frequently insults it by following and imitating its notes so exactly as to deceive even those well acquainted with both.

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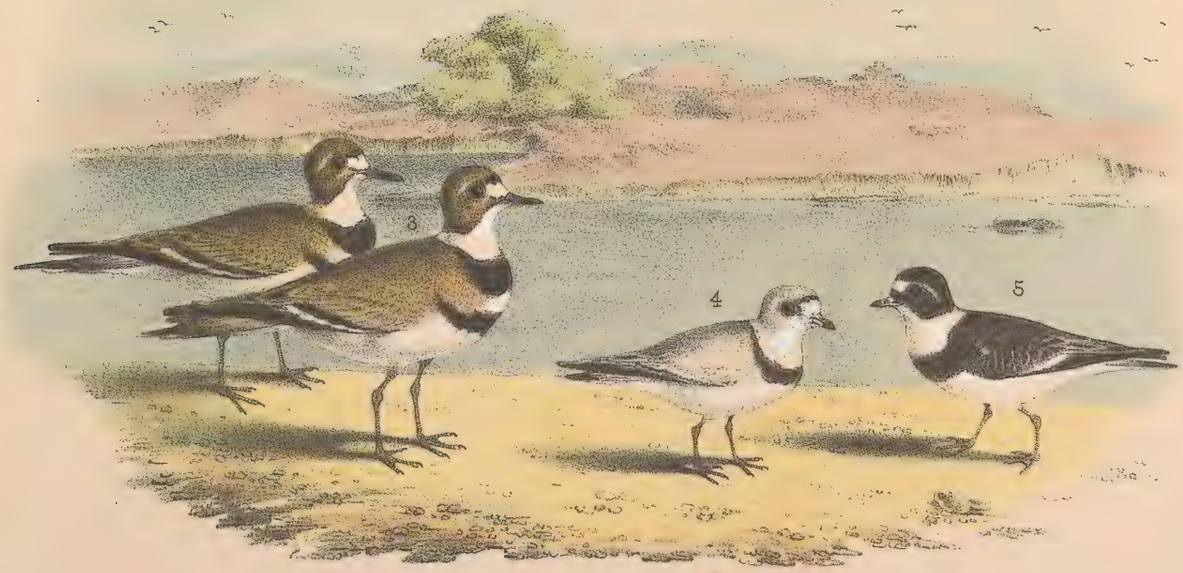
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In return for all this abuse, the Hawk contents himself with now and then feasting on the plumpest of his persecutors, who are, therefore, in perpetual dread of him; and yet, through some strange infatuation, or from fear that if they lose sight of him he may attack them unaware, the Sparrow Hawk no sooner appears than the alarm is given, and the whole posse of Jays follow." The length of this bird is about ten inches, and about twenty inches in breadth.

The Blue Jay. (*Cyanurus cristatus.*)

Fig. 3, Male. Fig. 4, Female.

This bird probably enjoys as wide-spread a reputation as any of our North American species. It is said that with but few exceptions there is no country upon the globe where some of its representatives are not found. But it is on the American continent that it is most abundantly diffused, especially in Mexico, and the countries lying adjacent to the equator.

Notwithstanding the beautiful appearance of the Blue Jay, it is regarded with but little favor in North America, where it is found in great numbers, a constant inhabitant both of the wooded wilderness and the vicinity of the settled farm, though more familiar at the approach of winter and early in spring than at any other season. "These wanderings or limited migrations," says Nuttall, "are induced by necessity alone; his hoards of grain, nuts, and acorns either have failed, or are forgotten; for, like other misers, he is more assiduous to amass than to expend or enjoy his stores, and the fruits of his labors very frequently either devolve to the rats or squirrels, or accidentally assist in the replanting of the forest. His visits, at this time, are not infrequent in the garden and orchard, and his usual petulant address, of *dg'ay*, *J'ay*, *J'ay*, and other harsh and trumpeting articulations, soon make his retreat known to all in his neighborhood. So habitual is this sentinel-cry of alarm, and so expressive, that all the birds within call, as well as other wild animals, are instantly on the alert, so that the fowler and hunter become generally disappointed of their game by this garrulous and noisy propensity. He is, therefore, for his petulance, frequently killed without pity or profit, as his flesh, though eaten, has but little to recommend it. His more complaisant notes, when undisturbed, though guttural and echoing, are by no means unpleasant, and fall in harmoniously with the cadence of the feathered choristers around him, so as to form a finishing part to the general music of the grove. His accents of blandishment, when influenced by the softer passions, are low and musical, so as to be scarcely heard beyond the thick branches where he sits concealed; but, as soon as discovered, he bursts out into notes of rage and reproach, accompanying his voice by jerks and actions of temerity and defiance." Wilson calls this species the *Bird Trumpeter*, from the remarkable sound that it produces when alarmed; and we learn from other ornithologists that it can imitate the cry of the Buzzard and Sparrow Hawk to such perfection as frequently to terrify the smaller denizens of the woods, and raises such an uproar on perceiving a fox or other enemy as compels the intruder to sneak quietly away. "The Blue Jay," says Audubon, "is extremely expert in discovering a fox, a raccoon, or any other quadruped hostile to birds, and will follow it, emitting a loud noise, as if desirous of bringing a Crow to its assistance. It acts in the same manner toward Owls, and even on some occasions toward Hawks. It is more tyrannical than brave, and like most boasters, domineers over the feeble, dreads the strong, and flies ever from his equal. In many cases, he is a downright coward. It robs every nest it can find; sucks the eggs, like the Crow, or tears to pieces and devours the young birds. In the North, they are fond of ripe chestnuts, and in visiting the trees, is seen to select the choicest. When these fail, it attacks the beech-nut, acorns, pears, apples, and green corn." Large quantities of seeds, all kinds of insects, and flesh are also eaten by these birds. The number of broods varies with the district in which the Jays are found, some breeding but once and others twice in the year. The nest is formed of twigs and other dry materials, lined with a bed of delicate fibers, on which, in due season, four or five eggs are deposited; these latter are olive-brown, marked with dark spots.

Who could imagine that a form so graceful, arrayed by nature in a garb so resplendent, should harbor so much mischief; that selfishness, duplicity, and malice should form the moral accompaniments of so much physical perfection? Yet so it is; and how like beings of a much higher order are these gay deceivers!

PLATE XL.

The Least Bittern. (*Ardetta exilis.*)

Fig. 1.

This very neat little species of Bittern is common in the United States, and most usually to be seen in the remotest parts of extensive marshes, from whence they seldom ever issue till the period of migration, which is no doubt nocturnal, in accordance with their usual habits. This bird is also seen in Jamaica, and several other of the West India Islands. They are chiefly found in the fresh-water marshes, or in places grown over with reeds and rushes, and are rarely seen in salt meadows. Their food consists principally of small fish of fresh water or inlets, and of aquatic insects. "When alarmed," says Wilson, "they seldom fly far, but take shelter among the reeds or long grass, and like the American Bittern, feed chiefly in the night." When surprised at night in their retreat, they are perfectly silent, and are not known to utter any very audible note. The eggs are two, sometimes three in number, and are of a dirty white color, and rather large for the size of the bird. The young remain in the nest until fully fledged, and are fed by the parents. Like all other young of the tribe, they sit on their heels, stretching their long legs forward, until advanced, when they will stand more erect. The length of this bird is about twelve inches, and from tip to tip of the expanded wings is about sixteen inches.

The Sanderling, or Ruddy Plover. (*Calidris arenaria.*)

Fig. 2.

This elegant little coast bird occupies, and is particularly attached to sandy flats, and low, sterile, solitary seasides, divested of vegetation, and perpetually bleached by the access of tides and storms, and is occasionally found near large pieces of fresh-water. In such situations they are often seen in numerous flocks running along the shore, busily employed in front of the moving waves, gleaning with agility the shrimps, minute shell-fish, marine insects, and small moluscous animals. Upon the ground, it runs with grace and quick movement, and exhibits the utmost dexterity in its beautiful and rapid motion through the air, during which it frequently joins company with parties of other shore birds. "The numerous flocks," says Nuttall, "keep a low, circling course along the strand, at times uttering a slender and rather plaintive whistle, nearly like that of the smaller Sandpipers. On alighting, the little, active troop, watching the opportunity, scatter themselves about in the rear of the retiring surge; the succeeding wave then again urges the busy gleaners before it, when they appear like a liitle pigmy army passing through their military evolutions; and at this time the wily sportsman, seizing his opportunity, spreads destruction among their timid ranks, and so little are they aware of the nature of the attack, that after making a few aerial meanders,

the survivors pursue their busy avocations with as little apparent concern as at the first." Like other Sandpipers, it associates in more or less numerous flocks while in winter-quarters, but lives in pairs throughout the summer. In disposition it is gentle and more confiding than other members of its family, but closely resembles them in its general habits. With so little timidity does the Sanderling regard man, that it is not uncommon for it to permit his close approach, and even if shot at, it often only moves a few paces from the spot. Nauman mentions that upon one occasion, after watching the proceedings of five of these birds, that were standing almost close to him, in most evident disregard of his presence, the thought struck him that he would arrange some snares he had in his pocket and take the whole party prisoners. This he accordingly did, the intended victims quietly watching his arrangements, and finally walking amongst and entangling themselves in the treacherous strings. This species is eight inches long, and fourteen and a quarter inches broad.

The Killdeer Plover. (*Ægialitis vociferus.*)

Fig. 3.

This species, so well known to the sportsman, is very abundant throughout North America. It may be said, they are met with in every quarter; and while some occupy the interior of the country, frequenting its plains and open grounds, others prefer the vicinity of the sea, or the margins of lakes and rivers, obtaining their food principally from the water; others, again, select desert tracts, marshes, or mountainous districts. During the breeding season, they live in pairs, but near together; subsequently, they collect together, into large parties, which gradually increase in size as the season for migrating approaches. In their habits they are usually active. They run and fly with equal facility, and though they rarely attempt to swim, are not altogether unsuccessful in that particular. They utter a noisy, plaintive whistle, and, during the breeding season, can produce a few connected, pleasing notes, from which they derive their name. "At all times," says Nuttall, "they are noisy and querulous to a proverb. In the breeding season, nothing can exceed their anxiety and alarm; and the incessant cry of *Killdeer*, *Killdeer*, or *te-te-de-dit*, and *te-dit*, as they waft themselves about overhead, or descend, and fly around you, is almost deafening. At the same time, to carry out this appearance of distress, they run along the ground, with hanging wings, counterfeiting lameness to divert the attention of the intruder. Indeed, no person can now approach the breeding-place, though at a considerable distance, without being molested with their vociferous and petulant clamor. During the evening, and till a late hour in moonlight nights, their cries are still heard, both in the fall and spring. They seek their fare of worms and insects often in the twilight, so that their habits are, in some degree, nocturnal, but they also feed largely on grasshoppers, crickets, and carabæus." "The Killdeer's large eyes," says Audubon, "seem to be given it to enable it to feed by night as well as by day. At any time after the breeding season, this species moves in loose flocks, seldom exceeding ten or fifteen individuals, which disperse over the space of an acre or two of ground. Yet some one of them always acts as a sentinel; for standing erect, to the full stretch of its legs, it carefully watches all the moving objects around, as far as its eye can reach. Cows, horses, or sheep are none of its enemies, and among them it will seek for food; but let a man, or a dog, or any other animal bent on destruction, show himself, and that instant the bird runs swiftly with a querulous note, and should any of these, his enemies, evince the least disposition to molest it, its beautiful wings and tail are spread, and away it goes, cheerily calling to its companions to follow." As game, their flesh is generally considered indifferent. In the fall, however, when the young birds are fat, juicy, and tender, they are considered by some as well flavored. This species is ten inches long and twenty broad.

The Piping Ringed Plover. (*Ægialitis melodus.*)

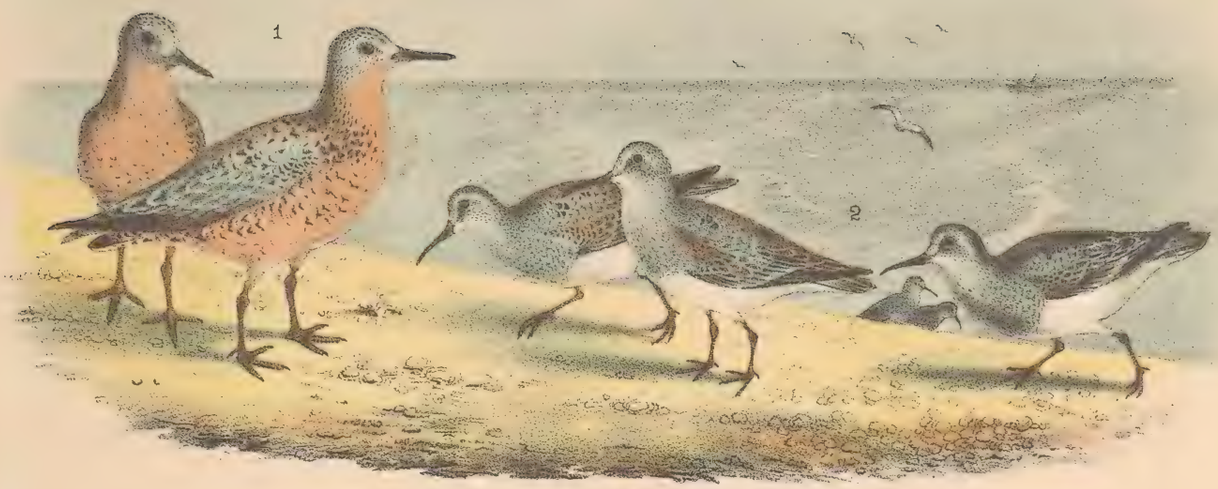
Fig. 4.

This pretty little species is most generally to be found along our extensive sea-coast, from the southern point of the Floridas to the frontier of Maine. The voice of this species, uttered while running along the shore of the coast, is rather soft and musical, and consists chiefly of a single varied and repeated melancholy, piping note. The food of this species consists of various insects, larvæ, mussels, and similar fare. They drink much, bathe freely once or twice a day, and frequently obtain their prey from under stones, in or near the water. "The flight of the Piping Plover," says Audubon, "is extremely rapid as well as protracted. It passes through the air by glidings and extended flappings, either close over the sand or high above the shores. On the ground few birds are swifter of foot. It runs in a straight line before you, sometimes for twenty or thirty yards, with so much celerity that unless you have a keen eye it is almost sure to become lost to your view; then, in an instant, it stops, becomes perfectly motionless, and if it perceives that you have not marked it, squats flat on the sand, which it so much resembles in color that you may as well search for another as try to find it again." This active and lovely little bird is worthy the attention of the young naturalist, as an object of study while tarrying by the sea-side, where they are quite numerous. The study of their habits would alone afford entertainment and occupation for a season. Their motions, so beautiful and graceful, as they course along the sand, stopping to examine the shells which the tide in its recess has left upon the beach, or following the retreating breakers to pick up the minute shell-fish borne in by the waves, is very entertaining. So, also, is the soft and musical note which is uttered with a somewhat deceptive effect, and is often heard proceeding from various quarters at the same time, without our being able to discover its source. The nest of this species consists chiefly of a small hole scooped out of the sand, often near the base of a tuft of grass. The female lays four eggs, which are mostly hatched by the warmth of the sand, acquired by exposure to a hot sun. The length of this bird is six inches and a half, and the span of the wing thirteen inches.

The Semi-palmated, Ring, or Ring-neck Plover. (*Ægialitis semipalmatus.*)

Fig. 5.

This little Plover arrives from the South along our sea-coasts, and in the Middle States, near the close of April, when they may be observed feeding and searching for their food, which consists of small crustacea, mollusca, and the eggs of various marine animals. During the latter part of May, they may be seen in flocks, on their way farther North, and in summer are even observed as far as the icy shores of Greenland. According to Richardson, they abound in Arctic America during the summer, and breed in similar situations with the Golden Plover. Mr. Hutchins adds, "its eggs, generally four, are dark-colored, and spotted with black." The aborigines say, that on the approach of stormy weather, this species utters a chirping noise, and claps its wings, as if influenced by some instinctive excitement. As soon after the breeding season as their young have acquired strength, and the inclement weather sets in, they migrate to warmer climates. Flocks of the old and young may be seen in the fall passing to the South. They are fond of associating with other birds of similar habits, and are generally unsuspicious, so that they are easily approached. On most occasions, and when flushed, they utter a reiterated, sharp, twittering, and wild note, very much in unison with the ceaseless echoes of the breaking surge, and the lashing of the waves, near which they almost perpetually course, gliding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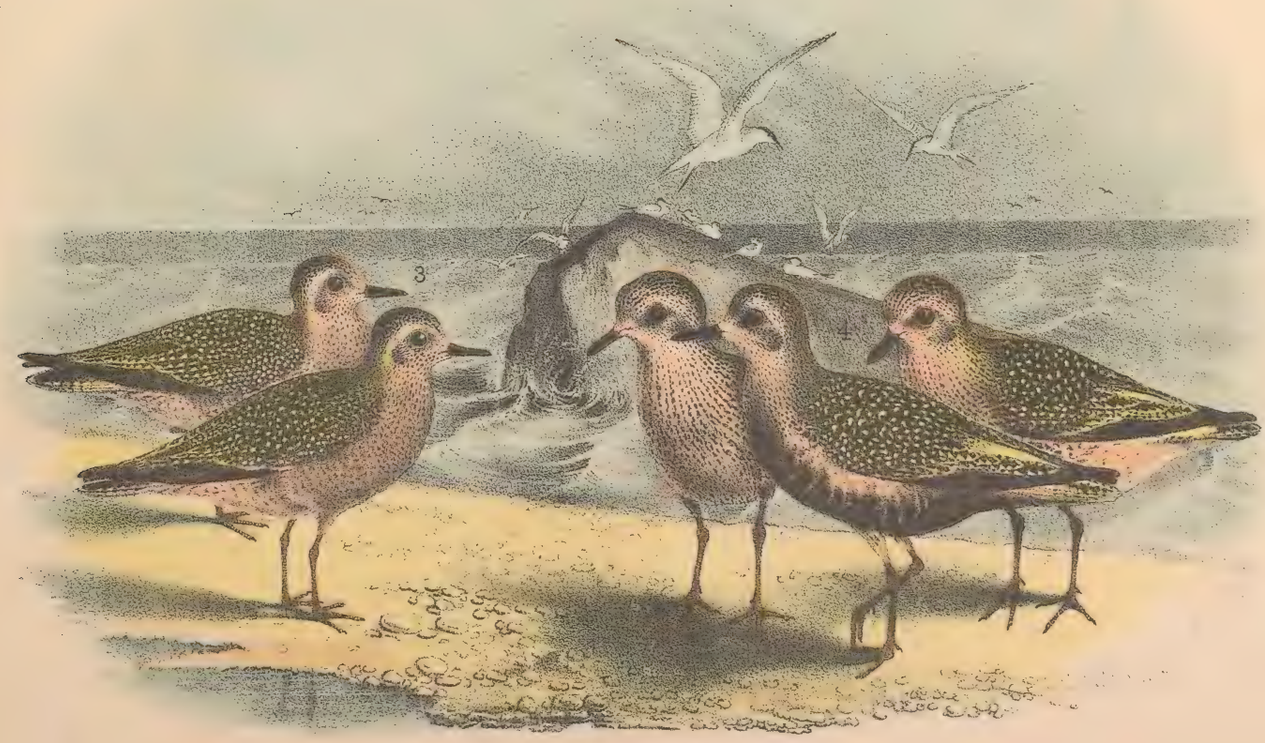
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and running with great agility before the retiring or advancing waters. When on the wing their notes are more sharp, and frequently repeated. The flesh of this bird is generally held in good esteem, especially in early autumn, when they are fat and well flavored. The length of this species is seven inches, and the span of the wing fourteen inches.

PLATE XLI.

Red-breasted Sandpiper, Ash-colored Sandpiper, Gray-back, Robin-snipe, or Knot. (*Tringa canutus.*)

Fig. 1.

This pretty bird, described under such a multiplicity of names, is quite a favorite with the sportsman, and when young and fat, is always welcome to the palate of the connoisseur. This species may generally be found near marine marshes on the sea-shore, or the borders of lakes or rivers, visiting the temperate climates during the winter, and returning to the colder latitudes to spend the summer months. Dr. Wheaton states that it occurs in Ohio, and Professor Snow says that it is common in Kansas. Their migrations take place in large parties, which fly by night or early in the morning. During the recess of the tide, they may be seen upon the sea-shore, seeking their food from the refuse of the ocean, or quietly and intently probing the sands in search of worms and shell-fish, and sometimes retreating rapidly before the advancing surge, and profiting by what the wave leaves on its retreat. In all their movements they display great activity, either from running rapidly and lightly on the fore part of their toes over the surface of the moist sand, when swimming in the water, or when winging their way, with a varied, graceful, and rapid flight, through the air. The voice of this bird is clear, piping, and resonant. They are social and peaceful in their habits, and it is probable that the encounters in which they indulge at certain seasons of the year, are as much in sport as in rivalry. "In autumn and winter," says Audubon, "this species is abundant along the whole range of our coast, wherever the shores are sandy or muddy, from Maine to the mouths of the Mississippi; but I never found one far inland. Sometimes they collect in flocks of several hundred individuals, and are seen wheeling over the water, near the shore, or over the beaches, in beautiful order, and now and then so close together as to afford an excellent shot, especially when they suddenly alight in a mass near the sportsman, or when, swiftly veering, they expose their lower parts at the same moment. On such occasions, a dozen or more may be killed at once, provided the proper moment is chosen."

There seems to be a kind of impatience in this bird that prevents it from remaining any length of time in the same place, and you may see it, scarcely alighted on a sand-bar, fly off, without any apparent reason, to another, when it settles, runs for a few moments, and again starts off on wing. This bird is an inhabitant of both continents, and although so abundant along the coasts at some seasons, they appear always to retire to the arctic regions to breed. Their food consists of worms, small mollusks, insects, larvæ, and similar fare. This species is ten inches long and twenty inches broad.

The American Dunlin, Black-bellied or Red-breasted Sandpiper, Ox-bird, or Purre. (*Tringa alpina var. americana.*)

Fig. 2.

This is one of our small and active species, migrating in large numbers along both our shores in spring and fall. During the summer season they are met with throughout the northern hemisphere, penetrating to the utmost habitable verge of the arctic circle, where they also breed. They likewise inhabit Greenland, Iceland, Scandinavia, the Alps of Siberia, and the coasts of the Caspian. In the southern hemisphere, they sometimes even wander as far as the Cape of Good Hope, and are found in Jamaica and Cayenne. They arrive in the Middle States, on their way north, during the months of April and May, and again, as they pursue their route to the warmer climates, they may be seen in September and October. At these times they often mingle with the flocks of other shore-birds, from which they are distinguishable by the rufous color of their upper plumage. In their habits they are quite active, and when frequenting the muddy flats and shores of the salt marshes, at the recess of the tide, they can be seen dexterously feeding on the worms, insects, and minute shell-fish, which such places generally afford. "These birds," says Wilson, "in conjunction with several others, sometimes collect together in such flocks as to seem, at a distance, a large cloud of thick smoke, varying in form and appearance every instant, while it performs its evolutions in air. As this cloud descends and courses along the shores of the ocean with great rapidity, in a kind of waving, serpentine flight, alternately throwing its dark and white plumage to the eye, it forms a very grand and interesting appearance. At such times, the gunners make prodigious slaughter among them, while, as the showers of their companions fall, the whole body often alight, or descend to the surface with them, till the sportsman is completely satiated with destruction." This species is about eight inches long and fifteen inches broad.

The Golden Plover, Frost-bird, or Bull-head. (*Charadrius fulvus var. virginicus.*)

Fig. 3.

This is one of our well-known and highly prized game-birds. They arrive on the coast of the Middle and Northern States, and in the interior of some of the Western States, in spring and early autumn. They winter in the South, principally upon the great grassy ranges of Texas and northern Mexico. It forms one of the most numerous bodies of the migratory birds, and may be seen in flocks, on their arrival in the spring, numbering three or four hundred. Their migrations usually take place at night, the birds flying at a considerable height from the ground. During the day they rest or seek for food, and, strangely enough, select not their usually favorite marshes, but fields and cultivated ground. They are brisk and nimble, running with great rapidity, and flying not only swiftly, but gracefully. During the period of incubation, they indulge in a variety of elegant gyrations in the vicinity of the nest, and their plaintive, clear whistle is heard to most advantage at that season. Worms, larvæ, beetles, snails, and slugs constitute their principal nourishment, and, in order to assist digestion, small pebbles are also swallowed. Water would appear to be a real necessary of life to these birds, as they love to wash and cleanse their feathers in it daily. "When, in the spring-plowing, the rich soil of our prairie States is turned up," says Bogardus, "a vast number of fat worms are thrown to the surface. To pick up and feed upon these, the Golden Plover will be seen following the plowman along the furrow. Sometimes they fly a little ahead of the plow and team, sometimes abreast of them, and all the time some are wheeling and curling round and dropping in the furrow which has just been made. At such times, they occasionally become so bold and tame that they come quite close to the horses, and I have known some to be knocked down and killed by the driving-boys with their whips. . . . At their first arrival the flocks of Plover are rather wild and difficult to get at. In their long journey on, and long flights from, the plains of Texas across Arkansas, and along the Mississippi river, to Illinois, Missouri,

Iowa, and Kansas, they have not been accustomed to the neighborhood of men, and at first they are shy. . . . On some days the flock will be much on the wing, flying from one field to another, and all going in one direction, as wild Pigeons do. At such times, the shooter may take a stand in the line of flight and get fair shooting all day, as the flocks go over. It is not necessary to hide altogether; in fact, in these localities—the burnt prairies and great pastures—there is seldom the means to do so, but it is often desirable to lie down. . . . The Golden Plovers are low-flying birds; the shooter may sometimes get a side shot at a large, close flock, and kill eight or ten with his two barrels. Sometimes the birds skim on not above four or five feet from the ground, at other times they fly pretty high. . . . When they fly low and present side shots, is the most favorable time to pepper them." Though they continue associated in numbers for common safety during the day, they disperse in the evening, and repose apart from each other. At daybreak, however, the feeling of solitude again returns, and the early sentinel no sooner gives the shrill and well-known call—a wild, shrill, and whistling note—than they assemble in their usual company. In this, and most other countries, their flesh is esteemed as a delicacy. The length of this species is about ten inches, and twenty inches broad.

The Black-bellied Plover, Beetle-headed Plover, Whistling Field Plover, Bull-head, or Ox-eye. (*Squatarola helvetica.*)

Fig. 4.

This species, known by a diversity of names, is common throughout North America, during the migrations, and is spread over most parts of the world. Around Hudson's Bay, Greenland, Iceland, and in all the inclement parts of Siberia, they are a common bird. It can be recognized at once by the presence of a small hind toe; the same does not appear with any of our other species of Plovers. When in full plumage, this species resembles very closely the Golden Plover. According to Wilson, they generally begin to visit the inland parts of Pennsylvania in the latter end of April, and, less timid than the Golden Plover, it often selects the plowed field for the site of its nest, where the ordinary fare of earth-worms, larvæ, beetles, and winged insects now abound. "They travel chiefly," says Audubon, "by night, and rest for a great part of the day along the margins of the sea, either reposing on the sands in the sunshine or searching the beaches for food. After dark their well-known cries give note of their passage, but by day they remain silent, even when forced to betake themselves to flight. On such occasions, they generally wheel over the waters, and not unfrequently return to the spot which they had at first selected." At times, this species is extremely shy and watchful, and during their love-season they utter a loud and whistling note. The length of this species is eleven and a half inches, and twenty-four in clear extent.

PLATE XLII.

The Florida Gallinule. (*Gallinula galeata.*)

This species, which is represented on the upper part of the plate, is mostly found in the South Atlantic and Gulf States, and is occasionally met with in Canada and the Northern and Middle States. They prefer to live in families, and have a whole pond to themselves, and it is only on extensive pieces of water that several pairs are to be met with, and even in this case each pair strives jealously to keep possession of its own territory. Slow waters, the margins of which are thickly covered with sedge and coarse grasses, or at least with reeds and brushwood, and partially overgrown with floating herbage, afford the requisite conditions for their residence. According to Audubon, this Gallinule seldom resorts to salt water, but at times is met with on the banks of bayous in which the water is brackish. This, however, happens only during winter. On land, it walks somewhat like a chicken, and thirty, forty, or more individuals may be seen searching for worms and insects among the grass, which they also nip in the manner of the domestic fowl. On such occasions, the constantly repeated movements of their tail are rendered conspicuous by the pure white of the feathers beneath it, which, along with the white stripes on the flanks, and, in spring, the vivid red of the frontal plate, renders their general appearance quite interesting. In cases of danger, they run with great speed, and easily conceal themselves. On the water, they sit very lightly, and swim with activity, the movements of their head and neck keeping pace with those of their feet. They pick up their food from either side, continually jerk their tail, and not unfrequently touch the water with it. These birds generally travel by night, and probably on foot, at least some of them have been captured under circumstances that lead to such a supposition. In early spring they usually arrive in pairs in the vicinity of their breeding-places, but occasionally they come singly. Its voice is loud and powerful, sounding like "*terr, terr;*" its warning cry resembles "*kerr, tett, tett,*" or like "*gorr, gorr,*" and at times its call is like "*kurg, kurg,*" expressive of fear. When on its wanderings its cry is "*keg, keg, keg.*" This species is fourteen inches long and twenty-two broad.

The Oyster-catcher. (*Hæmatopus palliatus.*)

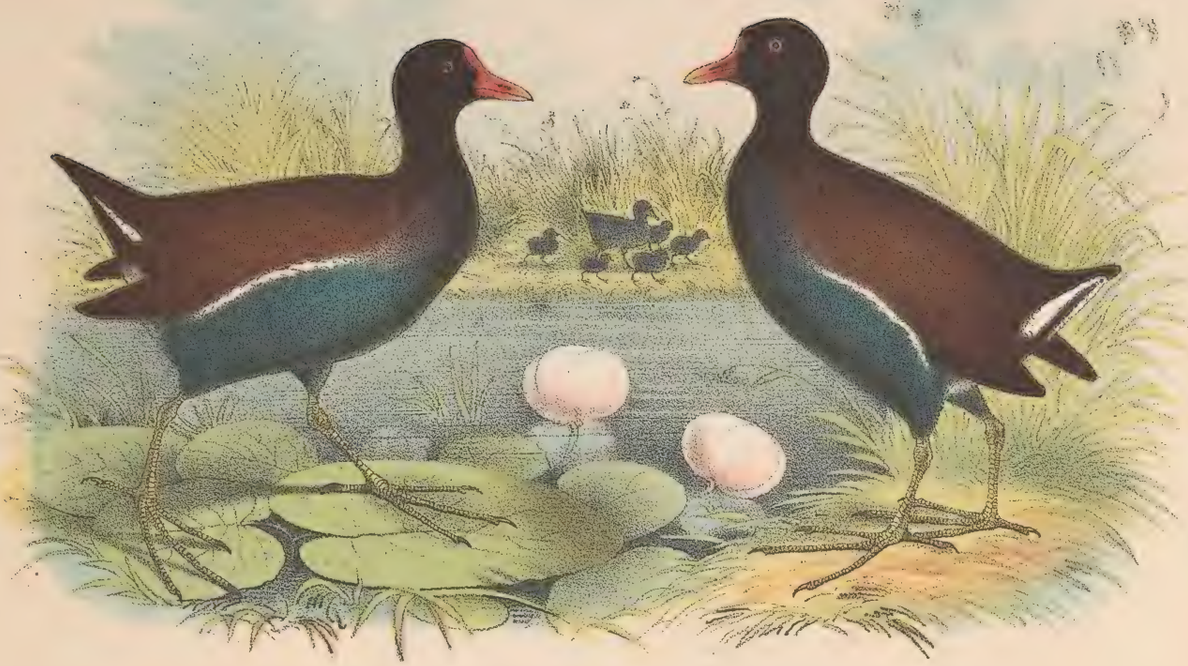
On the lower part of Plate XLII., we give a representation of this species, which is generally to be met with on the Atlantic coast, from Maine to Florida, and California, but is never seen in the interior.

"The Oyster-catcher," says Wilson, in describing its habits, "frequents the sandy sea-beach of New Jersey and other parts of our Atlantic coast, in summer, in small parties of two or three pairs together. They are extremely shy; and, except about the season of breeding, will seldom permit a person to approach within gunshot. They walk along the shore, in a watchful, stately manner, at times probing it with their long, wedge-like bills, in search of small shell-fish. This appears evident on examining the hard sands where they usually resort, which are found thickly perforated with oblong holes, two or three inches in depth. The small crabs, called fiddlers, that burrow in the mud at the bottom of inlets, are frequently the prey of the Oyster-catcher, as are muscles, spout-fish, and a variety of other shell-fish and sea insects, with which those shores abound."

Audubon, in describing the characteristics of this species, says:

"Our Oyster-catcher has a very extensive range. It spends the winter along the coast, from Maryland to the Gulf of Mexico, and being then abundant on the shores of the Floridas, may be considered a constant resident in the United States. At the approach of spring, it removes toward the Middle States, where, as well as in North Carolina, it breeds. It seems scarcer between Long Island and Portland, Maine, when you again see it, and whence it occurs all the way to Labrador. It is never found inland, nor even far up our largest rivers, but is fond of remaining at all times on the sandy beaches and rocky shores of our salt-water bays or marshes.

"Shy, vigilant, and ever on the alert, the Oyster-catcher walks with a certain appearance of dignity, greatly enhanced by its handsome plumage and remarkable bill. If you stop to watch it, that instant it sounds a loud shrill note of alarm, and should you advance further toward it, when it has neither nest nor young, off it flies quite out of sight. Few birds, indeed, are more difficult to be approached, and the only means of studying its habits I found to be the use of an excellent telescope, with which I could trace



its motions when at the distance of a quarter of a mile, and pursuing its avocations without apprehension of danger. In this manner I have seen it probe the sand to the full length of its bill; knock off limpets from the rocks on the coast of Labrador, using its weapon sideways, and insinuating it between the rock and the shell like a chisel; seize the bodies of gaping oysters on what are called, in the Southern States and the Floridas, 'raccoon oyster-beds,' and at other times take up a 'razor-handle,' or Solon, and lash it against the sands until the shell was broken, and the contents swallowed. Now and then they seem to suck the sea-urchins, driving in the mouth and introducing their bill by the aperture, without breaking the shell; again they are seen wading up to their bodies, from one place to another, seizing on shrimps and other crustacea, and even swimming for a few yards, should this be necessary to enable them to remove from one bank to another without flying."

The length of this species is about seventeen inches and its breadth about thirty-five inches.

PLATE XLIII.

The Frigate, or Man-of-war Bird. (*Tachypetes aquilus.*)

This bird is commonly known as the "Eagle of the Sea." A very conspicuous feature, by which it may be distinguished from among all kindred species, is the great development of its wings. According to Dr. Brehm: "The Frigate Bird is to be found in the same latitude as the 'Sons of the Sun,' braving with them the fervor of inter-tropical heat, but it seldom wanders so far from land as they. It has indeed been reported to have been seen at a distance of from six to seven hundred miles from the shore, to which it usually resorts in stormy weather. At the earliest dawn of morning it leaves its sleeping-place, and may soon afterward be observed making broad circles in the air, or flying rapidly against the wind toward the sea, in search of food. After catching fishes until satisfied, it returns to the dry land, which it reaches, should the weather be stormy, about noon, but if fine, not until later in the day."

This species, according to Bennett, being incapable of swimming and diving, may generally be seen on the alert for flying-fish, when these are started into the air by albicores and bonitos, and when unsuccessful, it is compelled to resort to a system of plundering other sea-birds. The quiet and industrious tribes, the Gannets and Sea-swallows, are generally selected as objects of attack, and on returning to their haunts to feed their young brood, after having been out fishing all day, are stopped in mid-air by the marauding Frigate Bird, and compelled to deliver up some of their prey, which, being disgorged by them, is most dexterously caught by the plunderer before it reaches the water. A Frigate Bird has been observed to soar over the mast-head of a ship, and tear away the pieces of colored cloth appended to the vane.

"About the middle of May," says Audubon, "a period which to me appeared very late for birds found in so warm a climate as the Florida Keys, the Frigate Pelicans assemble in flocks of from fifty to five hundred pairs or more. They are seen flying at a great height over the islands in which they have bred many previous seasons, courting for hours together, after which they return toward the mangroves, alight on them, and at once begin to repair the old nests or construct new ones. They pillage each other's nests of their materials, and make excursions for more to the nearest Keys. They break the dry twigs of a tree with ease, passing swiftly on wing, and snapping them off by a single grasp of their powerful bill. It is indeed a beautiful sight to see them when thus occupied, especially when several are so engaged, passing and repassing with the swiftness of thought over trees whose tops are blasted; their purpose appears accomplished as if by magic. It sometimes happens that this bird accidentally drops a stick while traveling toward its nest, when, if this should happen over the water, it plunges after it, and seizes it with its bill before it has reached the waves. The nests are usually placed on the south side of the Keys, and on such trees as hang over the water—some low, others high; several in a single tree, or only one, according to the size of the mangrove, but in some cases lining the whole island. They are composed of sticks crossing each other, to the height of about two inches, and are flattish, but not very large. When the birds are incubating, their long wings and tails are seen extending beyond the nest for more than a foot. The eggs are two or three—more frequently the latter—in number; measure two inches and seven-eighths in length, two in breadth, being thus of a rather elongated form, and have a thick, smooth shell of a greenish-white color, frequently soiled with the filth of the nest. The young are covered with yellowish-white down, and look at first as if they had no feet. They are fed by regurgitation, but grow tardily, and do not leave the nest until they are able to follow their parents on the wing."

"The Frigate Pelican," continues the same authority, "is possessed of a power of flight which I imagine superior, perhaps, to that of any other bird. However swiftly the Cayenne Tern, the smaller Gulls, or the Jager move on wing, it seems a matter of mere sport to it to overtake any of them. The Goshawk, the Peregrine, and the Gyr Falcon, which I conceive to be the swiftest of our Hawks, are obliged to pursue their victim, should it be a Green-winged Teal, or Passenger Pigeon, at times for half a mile at the highest pitch of their speed before they can secure it. The bird of which I speak comes from on high with the velocity of a meteor, and on nearing the object of its pursuit, which its keen eye has spied out while fishing at a distance, darts on either side to cut off all retreat, and with open bill forces it to drop or disgorge the fish which it has just caught. Upon one occasion I observed a Frigate Bird that had forced a Cayenne Tern, yet in sight, to drop a fish, which the broad-winged warrior had seized as it fell. This fish was rather large for the Tern, and might probably be about eight inches in length. The Frigate Bird mounted, with it across his bill, about a hundred yards, and then, tossing it up, caught it as it fell, but not in the proper manner; he therefore dropped it, but before it had fallen many yards, caught it again. Still it was not in a good position—the weight of the head, it seemed, having prevented the bird from seizing it by that part. A second time the fish was thrown upward, and now, at last, was received in a convenient manner—that is, with its head downward—and swallowed. These birds are gregarious, and utter a rough croaking cry."

The length of the Frigate Bird is forty-one inches, the spread of the wings eighty-six inches, length of tail eighteen inches. The weight of the entire bird is about three pounds.

PLATE XLIV.

The Wood Ibis. (*Tantalus loculator.*)

"The Wood Ibis," says Dr. Coues, "is a remarkable and interesting bird. In its general size, shape, and color, it might be likened to a Crane, being about four feet long, and standing still higher when erect; white in color, with black-tipped wings and black tail. The head is peculiar, being entirely bald in the adult bird, and having an enormously thick, heavy bill, tapering and a little decurved at the end. In Florida, it is sometimes called the 'Gannet;' on the Colorado, it is known as the Water Turkey."

"To go out after birds at noon-day is impossible; will not some birds kindly come to us? Fulfillment we have, even in the ex-

pression of the wish; there are birds to lend wings to leaden hours, even during the sun's reign of terror at Fort Yuma. A long white line, dimly seen at first in the distance, issues out of the gray-green woods. It is a troop of Wood Ibises, leaving their heated covert for what seems the still less endurable glare of day, yet reckoning well, for they have before enjoyed the cooler currents of the upper air, unheated by reflection from the parched and shrinking sands. They come nearer, rising higher as they come, till they are directly overhead, in the bright blue. Flapping heavily until they had cleared all obstacles, then mounting faster, with strong, regular beats of their broad wings, now they sail in circles, with wide-spread, motionless pinions, supported as if by magic. A score or more cross each other's paths in interminable spirals, their snowy bodies tipped at the wing-points with jetty black, clear cut against the sky; they become specks in the air, and finally pass from view. I am not aware that the Ibises circle about as I have described at particular hours of the day, but I generally saw them so occupied in the forenoon. The habit is constant with them, and quite characteristic. They are often joined by numbers of Turkey Buzzards—birds that have the same custom. Those familiar with the aërial gyrations of these birds, when, away from their loathsome feasts, they career high overhead, will have, by adding to the Buzzard's movements the beauty of plumage that the Ibises possess, a good idea of the pleasing appearance of the latter. Audubon says that their evolutions are performed when digestion is going on, and continued until they again feel the cravings of hunger. He has so well described their mode of feeding, that I can not do better than quote his paragraph. 'The Wood Ibis,' he says, 'feeds entirely upon fish and aquatic reptiles, of which it destroys an enormous quantity, in fact more than it eats; for if they have been killing fish for half an hour, and gorged themselves, they suffer the rest to lie on the water untouched, to become food for alligators, Crows, and Vultures. To procure its food, the Wood Ibis walks through shallow, muddy lakes, or bayous, in numbers. As soon as they have discovered a place abounding in fish, they dance, as it were, all through it, until the water becomes thick with the mud stirred from the bottom with their feet. The fishes, on rising to the surface, are instantly struck by the beak of the Ibises, and on being deprived of life they turn over and so remain. In the course of ten or fifteen minutes, hundreds of fishes, frogs, young alligators, and water-snakes cover the surface, and the birds greedily swallow them until they are completely gorged, after which they walk to the nearest margins, place themselves in long rows, with their breasts all turned toward the sun, in the manner of Pelicans and Vultures, and thus remain for an hour or so.'

"The great abundance of the Wood Ibis on the Colorado, especially the lower portions of the river, as at Fort Yuma, has not been generally recognized until of late years. It is probably as numerous there as anywhere in the United States, though I have never seen flocks 'composed of several thousands,' such as Audubon speaks of. Oftenest the numbers together would fall short of one hundred, and single birds were very frequently seen flapping overhead or wading in the shallow pools. But they are like all of their great tribe, gregarious birds, spending most of their time in each other's society. I doubt that any are found on the Colorado higher than Fort Mojave. They probably occur along the greater part of the Gila, but how far up I am unable to say. I have not noticed them in Arizona except on these two rivers. Wherever found in the Territory, they are permanent residents, as elsewhere in most parts of the United States. In the eastern province they reach to the Carolinas. They are said to ascend the Mississippi to the Ohio; but the swampy tracts and bayous of Louisiana, Mississippi, Alabama, and Florida are, with the lagoons of the lower Colorado, their favorite homes. I do not know of them in California, except as along the river just named.

"The carriage of the Wood Ibis is firm and sedate, almost stately; each leg is slowly lifted, and planted with deliberate precision, before the other is moved, when the birds walk unsuspicious of danger. I never saw one run rapidly, since on all the occasions when I have been the cause of alarm, the bird took wing directly. It springs powerfully from the ground, bending low to gather strength, and for a little distance flaps hurriedly with dangling legs, as if it was much exertion to lift so heavy a body. But fairly on wing, clear of all obstacles, the flight is firm, strong, and direct, performed with continuous, moderately rapid beats of the wing, except when the birds are sailing in circles as above noted. When proceeding in a straight line the feet are stretched horizontally backward, but the head is not drawn closely in upon the breast, as is the case with Herons, so that the bird presents what may be called a top-heavy appearance, increased by the thick large bill.

"The eggs of the Wood Ibis are like Heron's, in being nearly ellipsoidal, but differ from these, as well as from those of the Bay Ibis, in color, which is uniform dull white, without markings. The shell is rather rough to the touch, with a coating of softish, flaky, calcareous substance. A specimen that I measured was exactly two inches and three-quarters in length by one and three-quarters in breadth. Two or three are said to be a nest-complement. According to Audubon, the young are entirely dusky-gray, with brownish-black wings and bill. The head is at first covered, but becomes partially bare after the first molt. Four years are said to be required for the bird to attain its full plumage, though it may breed at two or three years of age, and is largely white or whitish after the first molt. The head and upper part of the neck of the adult are wholly bare, and of a livid bluish color, tinged with yellowish on the forehead. The bill is yellowish; the legs blue, becoming blackish on the toes, and tinged with yellow on the webs. The female is considerably smaller than the male."

PLATE XLV.

The Turnstone. (*Strepsilas interpres.*)
Fig. 1.

This peculiar and beautifully variegated species of marine bird is to be met with on the sea-coasts of nearly all countries. It is also, at times, to be seen in the interior. Usually, it appears alone, or in parties of two or three, on the beach, or on the shores of sandy rivers that empty into the ocean, near their outlets. Occasionally, it is found in company with some of the Sandpipers, and other beach birds. It arrives in the Middle and Eastern States about April, remaining until June, very soon after which they are seen at their breeding-quarters, on the shores of Hudson's Bay, and along the desolated strand of the Arctic Sea. "This is," says Dr. Brewer, "the only species of Turnstone known, and it is apparently distributed over the whole world. . . . On the Scotch and English coasts they arrive in small flocks about the beginning of August, and as the season advances, congregate into larger assemblies; the greater proportion of these are still in their young dress, and it is not until the ensuing spring that this is completely changed. In this state they have been frequently described as a second species. Early in spring, a few straggling birds, in perfect breeding plumage, may be observed on most of our shores, which have either been left at the general migration, or remain during the year in a state of barrenness. It is then that the finest specimens for stuffing are obtained."

It is not often that two specimens of this species are found whose plumage and markings are alike in every particular. As it is represented on the plate, it will, we think, be recognized at once by any one who has ever seen the bird. They are naturally of a restless and active disposition, running rapidly, with wings lowered, but usually only for a short distance, pausing from time to time, for a few moments, in the course of their swift career; their flight is easy, and accompanied by a variety of graceful evolutions.

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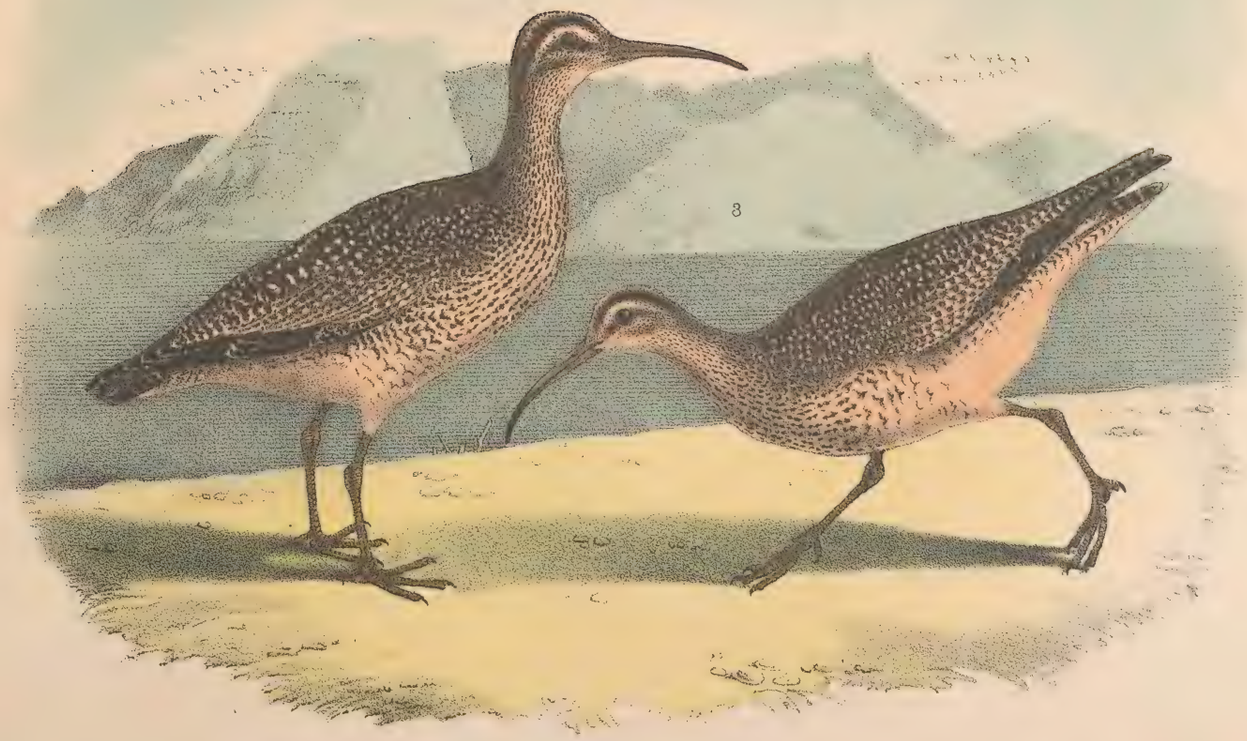
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Their cry, which is shrill and penetrating, is uttered with such various degrees of rapidity as to produce very different effects. They are also very cautious, and unusually shy.

Audubon states that he had ocular demonstration of the fact that, as its name imports, this species actually turns over stones and other objects to search for food, and gives the following interesting account of the proceedings of four of these birds, which he observed on the beach of Galveston island: "They merely," he says, "ran a little distance out of our course, and, on our returning, came back immediately to the same place. This they did four different times, and after we were done, remained busily engaged in searching for food. None of them were more than fifteen or twenty yards distant, and I was delighted to see the ingenuity with which they turned over the oyster-shells, clods of mud, and other small bodies left exposed by the retiring tide. Whenever the object was not too large, the bird bent its legs to half their length, placed its bill beneath it, and with a sudden, quick jerk of the head, pushed it off, when it quickly picked up the food which was thus exposed to view, and walked deliberately to the next shell to perform the same operation. In some instances, when the clusters of oyster-shells or clods of mud were too heavy to be removed in the ordinary manner, they would not only use the bill and head, but also the breast, pushing the object with all their strength, and reminding me of the labor which I have undergone in turning over a large turtle. Among the sea-weeds, which had been cast on the shore, they used only the bill, tossing the garbage from side to side with a dexterity extremely pleasant to behold."

Upon the coast of Cape May and Egg Harbor this species is known by the name of the "Horse-foot Snipe," from the fact that it subsists during a portion of the summer almost entirely on the spawn and eggs of the great "king crab," called by the common people the "horse-foot." This spawn may often be seen by bushels in the hollows and eddies on the coast. This species is nine inches long and eighteen across the span of the wing; the wing measures six inches and the tail six inches and a half. In the young the plumage is a mixture of blackish-brown and rust-yellow, the fore part of the body being grayish-black.

The Esquimaux Curlew, or Dough-bird. (*Numenius borealis.*)

Fig. 2.

This species is an occasional visitant to almost every part of the North American continent, and in the course of its migrations it penetrates into the remote territories of the West, along the great valley of the Mississippi, and extending its wanderings into the southern hemisphere as far as Brazil and Paraguay. It winters in the South, and arrives at the eastern sea-coasts early in May. It appears more or less numerous in flocks in the salt marshes, on the muddy shores, and about the inlets, and is also found near the so-called mud-flats at low water, mingling with other wading birds. According to Dr. Coues: "The Curlews associate in flocks of every size, from three to as many thousand, but they generally fly in so loose and straggling a manner that it is rare to kill more than half a dozen at a shot. When they wheel, however, in any of their many beautiful evolutions, they close together in a more compact body, and offer a more favorable opportunity to the gunner. Their flight is firm, direct, very swift, when necessary much protracted, and is performed with regular, rapid beats. They never sail, except when about to alight, when the wings are much incurved downward, in the manner of most waders. As their feet touch the ground, their long, pointed wings are raised over the back, until the tips almost touch, and then deliberately folded, much in the manner of the Solitary Sandpiper (*Rhyacophilus solitarius*). Their note is an often-repeated, soft, mellow, though clear whistle, which may be easily imitated. By this means they can readily be decoyed within shot, if the imitation is good and the gunner is careful to keep concealed. The smaller the flock the more easily are they allured, and a single individual rarely fails to turn his course toward the spot whence the sound proceeds. When in very extensive flocks they have a note which, when uttered by the whole number, I can compare to nothing but the chattering of a flock of Blackbirds. When wounded and taken in hand, they emit a very loud, harsh scream, like that of a common hen under similar circumstances, which cry they also utter when pursued.

"Their food consists almost entirely of the crow-berry (*Empetrum nigrum*), which grows on all the hill-sides in astonishing profusion. It is also called the 'bear-berry' and 'curlew-berry.' It is a small berry, of a deep purple color, almost black, growing upon a procumbent, running kind of heath, the foliage of which has a peculiar moss-like appearance. This is their principal and favorite food, and the whole intestine, the vent, the legs, the bill, throat, and even the plumage, are more or less stained with the deep purple juice. They are also very fond of a species of small snail that adheres to the rock in immense quantities, to procure which they frequent the land-washes at low tide. Food being so abundant, and so easily obtained, they become excessively fat. In this condition they are most delicious eating, being tender, juicy, and finely flavored; but, as might be expected, they prove a very difficult job for the taxidermist.

"Although the Curlews were in such vast numbers, I did not find them so tame as might be expected, and as I had been led to suppose by previous representations. I was never able to walk openly within shooting distance of a flock, though I was told it was often done. The most successful method of obtaining them is to take such a position as they will probably fly over in passing from one feeding ground to another. They may then be shot with ease, as they rarely fly high at such times. The pertinacity with which they cling to certain feeding-grounds, even when much molested, I saw strikingly illustrated on one occasion. The tide was rising and about to flood a muddy flat, of perhaps an acre in extent, where their favorite snails were in great quantities. Although six or eight gunners were stationed upon the spot, and kept up a continual round of firing upon the poor birds, they continued to fly distractedly about over our heads, notwithstanding the numbers that every moment fell. They seemed in terror lest they should lose their accustomed fare of snails that day. On another occasion, when the birds had been so harassed for several hours as to deprive them of all opportunity of feeding, great numbers of them retired to a very small island, or rather a large pile of rocks, a few hundred yards from the shore, covered with sea-weed and, of course, with snails. Flock after flock alighted on it, till it was completely covered with the birds, which there, in perfect safety, obtained their morning meal."

"On their return in autumn," says Nuttall, "they are remarkably gregarious, each company seeming to follow some temporary leader; and, on starting to fly, a sort of watch-cry is heard, resembling the whistling pronunciation of the word *bee-bee*." On their arrival from the north, they are very fat, plump, and well flavored. They are sought out by epicures, and enhance the value of a table entertainment. This bird is fifteen inches long and twenty-seven inches broad.

The Hudsonian Curlew. (*Numenius hudsonicus.*)

Fig. 3.

This species appears to be much less abundant than the preceding, although it occupies the same territory. Wilson says: "It arrives in large flocks on the sea-coast of New Jersey early in May, from the South, and frequents the salt marshes, muddy shores, and inlets, feeding on small worms and minute shell-fish. They are most commonly seen on mud-flats at low-water, in company

with various other waders; and, at high water, roam along the marshes. They fly high, and with great rapidity. A few are seen in June and as late as the beginning of July, when they generally move off toward the north. Their appearance on these occasions is very interesting. They collect together from the marshes, as if by premeditated design, rise to a great height in the air, usually an hour before sunset, and, forming in one vast line, keep up a constant whistling on their way to the north, as if conversing with one another to render the journey more agreeable." This species is nineteen inches long and thirty-two inches broad.

PLATE XLVI.

The Long-billed Curlew--Sickle-bill. (*Numenius longirostris.*)

Fig. 1.

This is one of our abundant, and by sportsmen highly prized game-birds, which is at home in most parts of the North American continent. Its northern range is the Saskatchawan and the length of the British provinces, where they retire to breed, rearing its young, to the southern border. It is known by its long bill, and loud, short whistling note, resembling the word *kurlew*, from whence it derives its name. A good imitation of this note, it is said, may entice a whole flock within gunshot. It affords splendid sport to the shooter, and as a delicacy is equal to the Golden Plover.

"It is by no means confined to the vicinity of the water," says Dr. Coues, "but, on the contrary, is often seen on extensive dry plains, where it feeds on various mollusks, insects, and berries, which it deftly secures with its extraordinarily long bill. The length and curve of this member, measuring sometimes eight or nine inches in length, gives the bird a singular and unmistakable appearance, either in flight or when gathering its food. Its voice is sonorous and not at all musical. During the breeding season, in particular, its harsh cries of alarm resound when the safety of its nest or young is threatened. In the fall, when food is plenty, it becomes very fat, and affords delicate eating."

Dr. Newberry found the Curlew quite abundant in the vicinity of San Francisco and throughout the Sacramento valley, during the autumn and winter, though there were comparatively few in the summer before the rainy season. "In our march," he adds, "through the Sacramento valley and northward, we did not meet with it until we came down into the plains bordering Pitt river, above the upper cañon. Here we found them in immense numbers, and they formed a valuable addition to our bill of fare. This prairie is entirely covered with water during the wet season, as is proven by the myriads of aquatic shells (*planorbis*, *physa*, etc.) scattered over the ground in the grass, and as it does not dry up so completely as the other valleys, the Curlews apparently pass the summer there. Around the Klamath lakes and others of that group they were abundant in August, and we found them associated with the Geese and other water-birds, which were congregated in countless numbers on the low lands bordering the Columbia, in October."

This species is twenty-five and one-half inches long, and thirty-eight inches broad.

The Willet, Semipalmated Tattler, or Stone Snipe. (*Totanus semipalmatus.*)

Fig. 2.

This is one of our well-known and abundant species of sporting bird. It is familiar to the general public by the name of Willet, derived from its shrill cries, like the syllables *'pill willet, 'tit pill willet.* It is distributed through most all parts of North America, and breeds where it may find a suitable place; most generally it is near the water of some secluded pool, or in the midst of a marsh. It generally passes its winters within the tropics and along the shores of the Mexican gulf, arriving in the Middle States early in April, from which time to the early part of August its noisy cry can be heard along the marshes for a great distance—Wilson says "of more than half a mile." The same authority says: "The anxiety and affection manifested by these birds for their eggs and young are truly interesting. A person no sooner enters the marshes than he is beset by the Willets, flying around and skimming over his head, vociferating with great violence their common cry of *pill-will-willet*, and uttering at times a loud, clicking note, as he approaches nearer to their nest. As they occasionally alight, and slowly shut their long white wings, speckled with black, they have a mournful note, expressive of great tenderness. . . . During the laying season, the Crows are seen roaming over the marshes in search of eggs, and, wherever they come, spread consternation and alarm among the Willets, who, in united numbers, attack and pursue them with loud clamors. It is worthy of remark, that among the various birds that breed in these marshes, a mutual respect is paid to each other's eggs; and it is only from intruders from the land side, such as crows, jays, weasels, foxes, minx, and man himself, that these affectionate tribes have most to dread." As soon as the young are able to fly, the brood, with the parent birds, roam together in a flock, and make frequent visits to the pools and ditches near the beach, where they usually pass their time wading about in the water, in search of food, which consists of marine worms, small shell-fish, mollusks, and other aquatic insects.

"Under ordinary circumstances," says Dr. Coues, "Willets are notoriously restless, wary, and noisy birds; but their nature is changed, or, at any rate, held in abeyance, during and for a short time after incubation. They cease their cries, grow less uneasy, become gentle, if still suspicious, and may generally be seen stalking quietly about the nest. When Willets are found in that humor—absent-minded, as it were, absorbed in reflection upon their engrossing duties, and unlikely to observe anything not directly in front of their bill—it is pretty good evidence that they have a nest hard by. It is the same with Avocets, and probably many other waders. During incubation, the bird that is 'off duty' (both parents are said to take turns at this) almost always indulges in revery, doubtless rose-tinted, and becomes in a corresponding degree oblivious to outward things. If then they are not set upon in a manner entirely too rude and boisterous, the inquiring ornithologist could desire no better opportunity than he will have to observe their every motion and attitude. But once let them become thoroughly alarmed by too open approach, particularly if the setting bird be driven from her nest, and the scene quickly shifts; there is a great outcry, violent protest, and tumult, where was quietude. Other pairs, nesting near by, join their cries till the confusion becomes general. But now, again, their actions are not those they would show at other times; for, instead of flying off with the instinct of self-preservation, to put distance between them and danger, they are held by some fascination to the spot, and hover around, wheeling about, flying in circles a little way to return again, with unremitting clamor. They may be only too easily destroyed under such circumstances, provided the ornithologist can lay aside his scruples and steel himself against sympathy.

"The half-webbing of the toes renders this species something of a swimmer, if necessity arise; but it only takes to water beyond its depth under urgent circumstances. In size, as well as in plumage, it is very variable; the length of the legs, particularly, varies in different individuals to a surprising degree."

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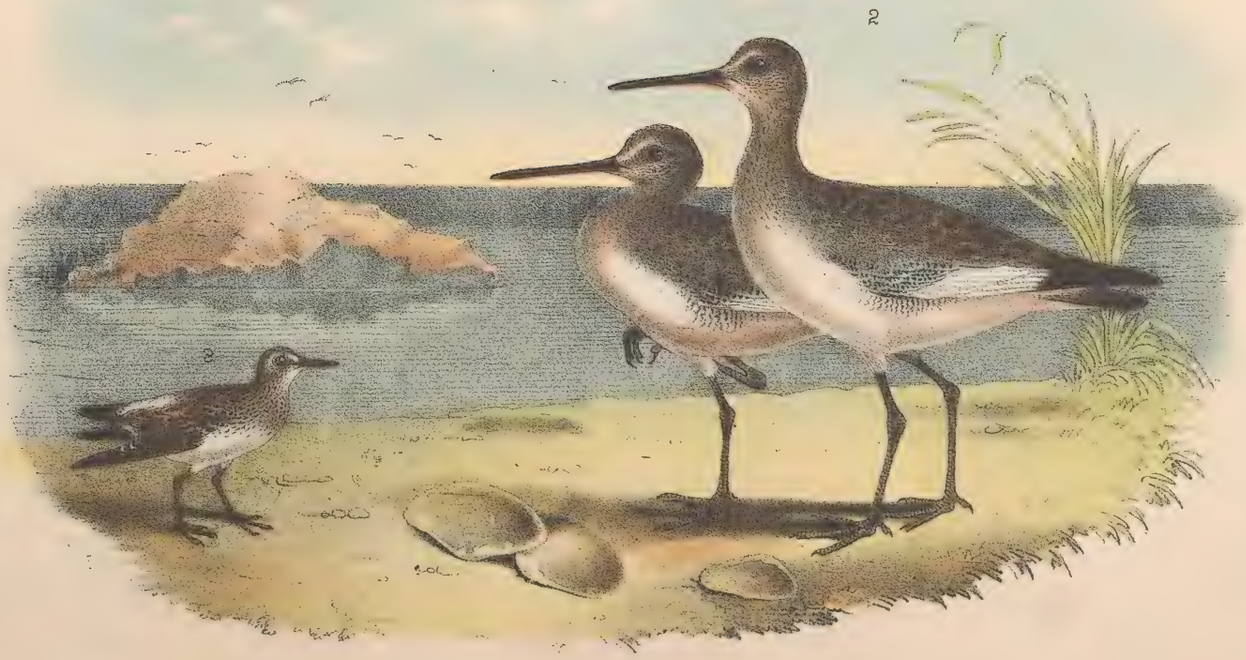
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The White-rumped Sandpiper. (*Tringa bonapartei.*)

Fig. 3.

Along the Atlantic coast this species is very abundant. It also penetrates far into the interior. It winters in the Southern States and Greenland, and is migratory through the United States and in the eastern provinces. During such times it will be found with other kindred species along the sea-shore and in the muddy flats back of the beaches. "Its general habits," says Dr. Coues, "are much like those of its allies, though it has some traits of its own, among them a peculiarly low, soft '*tweet*,' and a remarkable familiarity, or rather heedlessness. It may be distinguished, even at a distance, by its white upper tail-coverts, which show conspicuously when not covered by the folded wings." It is a very lively little bird, running nimbly and fast along the water's edge, sometimes standing still for a moment, wagging its tail, and then starts to running, occasionally stopping to pick up food, which consists of insects, worms, etc. The flight of this bird is usually low; at times it is seen flying in an air or a slanting line across the water, and then again it may be seen skimming along the surface, its long wings making a considerable angle downward from the body. This species is about seven inches long, and about twelve inches broad.

PLATE XLVII.

The Green Black-capped Fly-catcher. (*Myiodioctes pusillus.*)

Fig. 1.

This active little species was first observed by Wilson in some of the Eastern States of North America. It is generally familiar and unsuspicious, and may be found in great numbers in the bushes or thickets bordering on the streams, actively engaged in hunting insects. At intervals it utters its song, which consists of quite an animated warble. "'It has," says Audubon, "all the habits of a true Fly-catcher, feeding on small insects, which it catches entirely on the wing, snapping its bill with a smart clicking sound. It frequents the borders of the lakes, and such streams as are fringed with low bushes, from which it is seen every moment sallying forth, pursuing its insect prey for many yards at a time, and again throwing itself into its favorite thickets.

"The nest is placed on the extremity of a small horizontal branch, among the thick foliage of dwarf firs, not more than from three to five feet from the ground, and in the center of the thickets of those trees so common in Labrador. The materials of which it is composed are bits of dry moss and delicate pine twigs, agglutinated together and to the branches or leaves around it, and beneath which it is suspended, with a lining of extremely fine and transparent fibers. The greatest diameter does not exceed three and a half inches, and the depth is not more than one and a half. The eggs are four, dull white, sprinkled with reddish and brown dots toward the large end, where the marks form the circle, leaving the extremity plain. . . . They raise only one brood in the season. The young males show their black cap as soon as they are fully fledged, and before their departure for the south."

"The female," says Wilson, "is without the black crown, having that part of a dull yellow-olive, and is frequently mistaken for a distinct species. From her great resemblance, however, in other respects, to the male, . . . she can not hereafter be mistaken."

The length of this species is four and five-eighths inches, and in extent it is six and a half inches.

The Pine Warbler. (*Dendroeca pina.*)

Fig. 2.

This species, which is most generally to be observed in the pine groves, actively passing over from the limbs to the branches, in like manner as other Warblers, seizing insects on the wing, is a very early visitor from the south, in the spring, and remains late in the fall. This bird is by no means confined to the pine forests, as it has been observed in similar situations as other Warblers are to be found. Mr. Allen gives the following account of its resorts: "During the last weeks of April and the early part of May, they frequent open fields, obtaining much of their food from the ground. . . . A little later they retire to the pine forests, where they almost exclusively remain during summer, keeping mostly in the tops of the taller trees. During a few weeks, about October 1st, they again come about the orchards and fields."

"While walking," says Maynard, "in the piny woods of Florida, one will suddenly observe that the trees over his head are filled with birds, when, but a moment before, not a living thing was to be seen, and his ears will be saluted by a variety of sounds. Besides the loud, harsh notes of the Woodpeckers or Nuthatches, and the mellow whistle of the Bluebirds, the slowly given trill of the Pine Warblers will occasionally be heard. There are hundreds of these little birds in every passing flock, yet but few of them ever sing. They are extremely active, now searching for insects among the swaying foliage of the high pines overhead, then clinging to the brown trunks to peer into the crevices of the bark, or alighting on the ground among the grass. But the birds do not remain long in one spot, and soon pass on. Thus these great avian waves are constantly passing over the barrens through the entire winter, and generally more than half the birds of which they are composed are Pine Warblers. Of all the thousands of this species which spend the colder season in Florida but few remain to breed, and by the middle of March the greater portion leave for the north. They arrive in New England in early April, and by the 1st of May begin to construct their nests, which are commonly placed in a fork of the topmost limb of a pine tree. They keep close watch of their homes, and when any one chances to approach them, will chirp loudly; but although the collector can thus ascertain when he is in the vicinity of a nest, he will find that the birds have been careful to place it in such a position that it can not be seen from below; therefore it is exceedingly difficult to discover. I have frequently searched a long time for a nest, and then been obliged to abandon the attempt to find it, although I was confident, by the actions of the birds, that it was near."

During this season the males have a louder song than when in the south. It consists of several short notes, which commence low, but increase in volume and end abruptly. After leaving the nests, the young follow their parents, and are thus found in small companies until after the molt, which takes place in August; then several families will come together, and the flocks thus formed will increase in size until the 1st of October, when the Pine Warblers depart for the south, arriving in Florida about the middle of November. The length of this species is five and a half inches, and the extent eight and three-quarter inches.

The Blue Golden-winged Warbler. (*Helminthophaga chrysoptera.*)

Fig. 3.

This is one of our rare and beautifully marked species of Warbler. It is usually met with in pairs, and appears to be everywhere uncommon. The higher branches of trees, in the vicinity of swampy land, appear to be its favorite hunting places. It may be seen seeking its food quite diligently along the branches and among the twigs, moving by short leaps, and stopping often to

utter its drawling note, "zee-zee-zee-zee," or "dee-dee-dee-dee." This song is easily recognized from that of any other Warbler. In its migrations to the north, it passes through the Middle States in May, and returns in the fall to winter in Central America and Cuba. "The nest," says Maynard, "is composed outwardly of large oak-leaves of the previous year and grape-vine bark, and is lined, not very smoothly, with fine grass and a few horse-hairs. It is large for the size of the bird, quite deep, and slightly smaller at the top than in the middle. . . . The eggs, four in number, . . . were white, spotted and blotched with reddish-brown thickly at the larger end, where in one example the spots formed an irregular wreath, more sparsely elsewhere." The food of this bird consists of small insects and their larvæ. The length of this species is five inches, and the extent about seven inches.

The Worm-eating Warbler. (*Helmitherus vermivorus.*)

Fig. 4.

This is one of our most industrious species of Warblers. It is not a very abundant bird, and is distributed more in the warmer parts of North America. In New England it is regarded only as a straggler. Audubon, in describing its habits, says: "It is an inhabitant of the interior of the forests, and is seldom found on the borders of roads or in the fields. In spring they move in pairs, and, during their retrogade marches, in little groups, consisting each of a family seven or eight in number; on which account I am inclined to believe that they raise only a single brood in the year. They are ever amongst the decayed branches of trees or other plants, such as are accidentally broken off by the wind, and are there seen searching for insects or caterpillars. They also resort to the ground, and turn over the dried leaves in quest of the same kind of food. They are unsuspecting, and will suffer a person to approach within a few paces. When disturbed, they fly off to some place where withered leaves are seen. They have only a few weak notes, which do not deserve the name of song. Their industry, however, atones for this defect, as they are seen continually moving about, nestling among the leaves, and scarcely ever removing from one situation to another, until after they have made a full inspection of the part in which they have been employed."

The *American Naturalist* contains an article by Mr. T. H. Jackson, describing the nest and eggs of this bird as follows:

"It was placed in a hollow on the ground, much like the nest of the Oven bird (*Seiurus aurocapillus*), and was hidden from sight by the dry leaves that lay thickly around. The nest was composed externally of dead leaves, mostly those of the beech, while the interior was prettily lined with the fine thread-like stalks of the hair-moss (*polytrichium*). Altogether, it was a very neat structure, and looked to me as if the owner was habitually a ground-nester. . . . So close did the female sit that I captured her without difficulty by placing my hat over the nest."

Mr. J. H. Batty discovered a nest of this species containing eggs, on the eastern slope of the Orange Mountains, in New Jersey. "The eggs," he says, "are four in number, spotted and dotted, most thickly at the large end, with reddish-brown, and measuring 0.73 by 0.56." The length of this species is five and a quarter inches, and the extent about eight inches.

The Golden-crowned Kinglet. (*Regulus satrapa.*)

Fig. 5.

This is one of our attractive and industrious species. During its migrations it may be said to be, in most parts of North America, a common bird. It usually arrives in the Middle States from its winter-quarters in the south as early as March, and may be seen again in the fall more numerous than in the spring, and when the winter is a mild one they are met with as late as December. In summer it is a rare bird in the Middle States, at which time they are to be found at the far north where they breed. It is generally accompanied in its migrations by the Titmice or Chickadees, Brown Creeper, Nuthatch, and various Warblers. The food of this bird consists of insects and their larvæ, especially those that so numerously infest the apple and other garden and orchard trees, in search of which it is very active in motion, skipping and perambulating about the various branches, uttering its weak warble. It is also said that they feed on flies, which they seize on the wing; small berries, and some kinds of seeds, which they break open by pecking with their bill. Late in the winter they may be found, mostly among the evergreens, such as the pine, spruce, cedar, juniper, etc. Whilst fluttering in the air, this bird is often seen exposing the golden feathers of its crown, which are opened and shut very dexterously. This species is about four inches long, and six and a half in extent.

The Ruby-crowned Kinglet. (*Regulus calendula.*)

Fig. 6.

This species, in its habits, manners, and general appearance, is very closely related to the preceding, and is usually to be seen, in the fall, in their company and with the Titmouse; the whole forming quite a group, busily and silently gleaning their scanty food, which consists of insects and larvæ in the woods and orchards. In spring, during their migrations, it is first seen in evergreen woods; but later in the season it is usually to be observed among the opening foliage and blossoms of forest and orchard trees, such as the oak, elm, maple, apple, etc., frequenting the topmost branches, as well as the lower ones, remaining on a cluster of twigs until it is completely cleared of insects. It is not a shy bird, but, on the contrary, will permit one to approach very near to it. On bright days in spring, this bird may be heard uttering a very beautiful and pleasing warble. It also has a queer call-note, which frequently precedes the warble.

The Ruby-crown makes his winter-quarters in the Southern States and along our southern border and in Mexico. In summer they retire to the north, Canada, Labrador, etc., to breed. This species is about four inches long, and six inches in extent.

The Canadian Fly-catcher. (*Myiodioctes canadensis.*)

Fig. 7.

This beautiful species may be found abundantly in the woodlands of the eastern United States and Canada, where it may be met with through the entire summer. It usually arrives in the Middle and Western States from the south about the 1st of May, and again in autumn from the north, when it breeds. This bird is chiefly to be met with near the mountains, busily engaged in darting after and feeding on small insects, which it catches entirely on the wing, snapping its bill with a smart clicking sound. It also frequents the borders of the lakes and streams bordered with bushes, from which it may be observed to sally forth, pursuing its insect prey for some distance, and again returning to its favorite resorts. Its flight is rapid, and the movements and actions those of the true Fly-catchers. "Its note," says Samuels, "is a shrill *wéechy*, *wéechy*, which is uttered at short intervals by the bird, both while on the wing and when perching." "About the first week in June," says the same author, "the nest is built. This is fixed in a fork of a low cedar or pine bush, very near the ground, and is constructed of pine leaves, fine roots and grasses, and a few hairs, It is loosely put together, and is lined with fine pieces of the same materials and lichens. The eggs are four in number. They are small and abruptly pointed; of a grayish-white color, with a slight roseate tint, and are marked with spots and fine blotches of lilac and brown, usually thickest nearer the larger end." In

the female, the black on the forehead and along the throat is indistinct. The length of this bird is four inches and a half, and in extent seven and three-quarter inches.

The Blue-winged Yellow Warbler. (*Helminthophaga pinus.*)

Fig. 8.

This species and the prothonotary Warbler bear a very close resemblance in their colors, and are very often mistaken for each other. Wilson says: "It comes to us early in May from the south; haunts thickets and shrubberies, searching the branches for insects; is fond of visiting gardens, orchards, and willow trees, of gleaning among blossoms and currant bushes, and is frequently found in very sequestered woods, where it generally builds its nest. This is fixed in a thick bunch or tussock of long grass, sometimes sheltered by a brier bush. It is built in the form of an inverted cone or funnel—the bottom thickly bedded with dry beech leaves, the sides formed of the dry bark of strong weeds, lined within with fine dry grass. These materials are not placed in the usual manner, circularly, but shelving downward on all sides from the top; the mouth being wide, the bottom very narrow, filled with leaves, and the eggs or young occupying the middle. The female lays five eggs, pure white, with a few very faint dots of reddish near the great end. The young appear the first week in June." This bird will permit one to approach very near, so that good observations can be made. It is usually very busily employed in catching flying insects. The length of this bird is five and a half inches, and in extent seven and three-quarter inches.

The Cape May Warbler. (*Dendroeca tigrina.*)

Fig. 9.

This is a beautiful little species of Warbler, and in most parts of North America it is uncommon. It is to be met with near swamps, and in the pine, fir, cypress, etc., forests. Maynard, in his valuable work, entitled "The Birds of Florida," says: "Upon visiting the extensive coniferous forests of Northern Maine, in summer, I was much surprised to find these beautiful little Warblers abundant there. They frequented the tops of the huge spruces and pines, often more than one hundred feet in the air. The birds were ever busy in searching for insects among the thick foliage, so that it was almost impossible to see one. But the lively and varied songs of the males, which came floating downward through the perfumed air, and mingled with other harmonious sounds, which are constantly heard in these sylvan retreats during the pleasant June weather, informed us of their presence, even though we could not see the author of the melodious strains. The Cape May Warblers doubtless breed in the tops of these densely foliaged trees, for we shot several females which bore signs of incubation. . . . They were very abundant at Key West in November, frequenting the gardens near the houses, where they were searching among the tropical trees and shrubs for insects. The birds were very unsuspicious, often clinging to branches which overhung the sidewalks, within a few feet of passengers. They appeared to prefer the inhabited portion of the Key, for I rarely found them in the wooded districts. The majority left the island before the 1st of December, but a few remained all winter. They are common, however, throughout the state in the spring, and may be found in almost any hummock in company with other Warblers."

A peculiar feature of this species is the construction of its bill, which is curved downward. The tongue is also singular, being more deeply cleft than is usually noticed in Warblers. This species winters in Key West and the West Indies, and breeds in Jamaica and in the more northern sections of the United States. Its length is five and one-half inches, and in extent it is eight and three-quarter inches.

The Tennessee Warbler. (*Helminthophaga peregrina.*)

Fig. 10.

This may be considered another rare species of Warbler, and the appearance of its coloring may be said to be plain. It was first discovered by Wilson on the banks of the Cumberland river, in the State of Tennessee. It was actively engaged hunting among the opening leaves in spring. "The Tennessee Warbler," says Coues, "appears to be rather rare in the Eastern United States, but more plentiful along its line of migration in the interior. I observed it in great numbers in Minnesota and Eastern Dakota, late in May and early in June, where it was moving along the Red River of the North. Standing in the heavy timber, near the bank of the river, I easily procured a dozen specimens in an hour, without moving from my tracks, as the birds came fluttering past in the tree-tops, almost in a continuous band, associated with several other Warblers and with small Fly-catchers. They were extremely active, skipping through the foliage and fluttering through the air, pursuing their insect prey, and uttering a sharp screeching note." The nest of this species consists of fine dried grass-stems, loosely interwoven together. The length of this Warbler is four and three-quarter inches, and in extent it is eight inches.

The Golden Warbler, Blue-eyed Yellow Warbler, Summer Yellow-bird. (*Dendroica æstiva.*)

Fig. 11.

A brilliant and numerous little species of Warbler, that may be met with throughout the whole of North America, and, during the winter season, through Mexico, Central America, and into South America.

"The Yellow Warbler," says Maynard, "is one of the most familiar summer residents in New England, frequenting the orchards, gardens, and fence-rows, but is seldom seen in the deep woods. They build their nests in every available situation—sometimes in a barberry-bush in the open field, on the limb of an apple tree, or among the ornamental shrubbery, beneath the windows of the farm-house. They are very unsuspicious, and a pair constructed their domicile last summer in a little plum tree which stands within the garden, within five feet of an arbor, in which I kept two tame White Herons. These fine birds attracted many visitors, who constantly passed under the nest, which was only about seven feet from the ground, yet the female Yellow-bird would sit upon her eggs with the utmost composure all the time, and succeeded in rearing a fine brood of young. These Warblers breed during the first week in June, and the song of their males is uttered constantly at this season. It is loud, clear, and divided into two parts, the first of which consists of three or four quick chirps. The latter portion is more continuous, but is somewhat varied. The force with which these notes are delivered causes the little performer's body to quiver all over, quite to the end of the tail. While singing, the head is raised, the bird ceases its search for insects for a moment, and gives its entire attention to the song, then will pursue its avocations. Thus these little birds are constantly pouring forth their lays at intervals through the day, and continue to warble until late in the summer."

Nuttall says: "This is a very lively, unsuspicious, and almost familiar little bird, and its bright golden color renders it very conspicuous, as in pursuit of flitting insects it flies and darts among the blooming shrubs and orchards. It is particularly attached to willow trees and other kinds in moist and shady situations, that afford this and other species a variety of small larvæ and caterpillars, on which they delight to feed. While incessantly and busily employed, it occasionally mounts the twig, and with a loud, shrill, and almost piercing voice, it earnestly utters, at short and irregular

intervals, 'tsh', 'tsh', 'tsh', 'tsh', 'tshaïa, or *tshe, tshe, tsh, tshayia, tshe, tshe*,—this last phrase rather plaintive and interrogatory, as if expecting the recognition of its mate. The Summer Yellow-bird, to attract attention from its nest, when sitting, or when the nest contains young, sometimes feigns lameness, hanging its tail and head, and fluttering feebly along in the path of the spectator. At other times, when certain that the intrusion had proved harmless, the bird would only go off a few feet, utter a feeble complaint, or remain wholly silent, and almost instantly resume her seat."

The length of this species is five inches, and its extent about seven inches.

The Palm, or Yellow Red-poll Warbler. (*Dendroeca palmarum.*)

Fig. 12.

Late authorities agree that the Palm Warbler is an abundant species, and may be seen in good numbers during winter in the South. "It passes rapidly," says Coues, "through the Middle and Western States early in the spring, sometimes reaching the Connecticut valley before the snow is gone, and returns more leisurely in autumn, lingering late by the way. It is found in New England through October, and has even been seen in Massachusetts in November. Its habits are somewhat peculiar, some of them, such as the continual jetting of the tail and fondness for the ground, recalling the *Seiuri* rather than a bird of its own genus. Unlike most Warblers, it is rarely, if ever, found in high thick woods, being partial to coppices, hedge-rows, straggling shrubbery, and especially old waste fields, where it delights to ramble and flutter in company with Yellow-rumps and various kinds of Sparrows. It keeps much on the ground, running among the weeds and stubble, and even on the open dust of the wayside, with a peculiar tremulousness, something like that of the Titlark. Its song, if it have one, I have never heard. Its only note, with us, is a slight '*tsip*,' indistinguishable from that of several of its allies. This is corroborated by Dr. Brewer, as I learn from an early proof-sheet of his work. He says: 'They have no other song than a few simple and feeble notes, so thin and weak that they might almost be mistaken for the sounds made by the common grass-hopper.'"

Maynard says: "The constant watchfulness of these birds, which is exhibited by every movement, is necessary for their existence, for they usually inhabit open places, where they are in constant danger from the attacks of enemies. At Key West, this vigilance frequently saved their lives, for a Sparrow, Pigeon, or Broad-winged Hawk would often come sweeping over them, and, without a moment's warning, would dart like a flash at a Warbler; but such forays almost always proved unsuccessful; for, although the swoop of the Hawk was so rapid that the eye could scarcely follow its movements, yet the Red-poll was on the alert, and, uttering a shrill chirp of alarm, would instantly shoot into the nearest prickly pear or mass of tangled vines, where it was safe from the pursuer." The same good authority also says: "They are seldom quiet for an instant; for, when perching, they are ever turning their little heads right and left, while their bright eyes are carefully scanning everything far or near. Their tails are also constantly moving up and down. This lattter peculiarity at once distinguishes the Yellow Red-polls from all other North American Warblers, for none beside have this habit."

Its nest-building is described by Dr. Brewer as follows:

"The Red-poll usually selects for the site of its nest the edge of a swampy thicket, more or less open, placing it invariably upon the ground. They are usually not large, about three and a half inches in diameter and two and a half in depth, the diameter and depth of the cavity averaging each only half an inch less. The walls are compactly and elaborately constructed of an interweaving of various fine materials, chiefly fine, dry grasses, slender strips of bark, stems of the smaller plants, hypnum and other mosses. Within, the nest is warmly and softly lined with down and feathers."

The length of this species is five inches, and its extent is eight inches.

PLATE XLVIII.

The Sharp-tailed Finch. (*Ammodromus candacutus.*)

Fig. 1.

This species is mostly confined to the neighborhood of the salt-marshes on the coast, and during the breeding-season, is seldom to be met with more than a few miles from such localities. It is a peculiar species of North American bird. In its habits, it resembles those of the Sea-side Finch, of which Wilson says: "It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide-water, except when long and violent east and northeasterly storms, with high tides, compel it to seek the shore. On these occasions, it courses along the margin, and among the holes and interstices of the weeds and sea-wrack, with a rapidity equaled only by the nimblest of our Sand-pipers, and very much in their manner. At these times, also, it roosts on the ground, and runs about after dusk." The food of this species consists chiefly of small shell-fish and fragments of small sea-crabs. The nest is usually built the latter part of May, in a tussock of grass above the tide-marks, and is constructed externally of coarse grasses strongly woven together, and lined with finer grasses and sea-weed. The eggs are four to five in number, and of a bluish-white color, sprinkled over with fine purplish-brown dots; these dots are more numerous near the greater end. The length of this species is five and a quarter inches, and about seven inches broad.

The Canadian, or Tree Sparrow. (*Spizella monticola.*)

Fig. 2.

In its habitat, this species may be said to take in all portions of North America. West of the Rocky Mountains, and in the United States, it is only occasionally met with. Eastward it is very abundant, and in great numbers makes its winter-quarters in the Middle States, Pennsylvania, Maryland, and Virginia, and sometimes reaches as far as the Carolinas. It is a very hardy bird, and is evidently suited to a cold climate, as it is often found to winter in New England and the Canadas. Its breeding-range extends from Labrador to Maine. Its nest is placed on trees, bushes, or the ground, and is formed externally of mud and dry grass, and lined with soft hair or down. According to Coues: "The eggs are much like that of the Song Sparrow, being pale-bluish, speckled and blotched with different shades of reddish-brown. It measures about three-fourths of an inch long by three-fifths in breadth."

The same author also says, in narrating his observations of this species, at Fort Randall:

"All the undergrowth of the river-bottom was full of them, in troops sometimes numbering hundreds, singing as gaily, it seemed to me, as in spring-time. With the colder weather of the following month, so many moved off that I thought none would remain to endure the rigor of winter, but such proved to be not the case. The remainder simply retreated to the deepest recesses of the shrubbery, where, protected from the biting winds, if not from the cold, they passed the winter, and to all appearances very comfortably. I account for their remaining at this inclement season, by the profusion of seeds of various kinds that are to be obtained during the whole winter; certainly, those that I shot were in good condition, and generally had the crop well filled. Their seclusion

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and quietness at this season is remarkable, and causes them to be in a great measure overlooked. On several occasions, when the thermometer was far below zero, the river frozen solid for two feet deep, and snow on the ground, I have unexpectedly come upon little groups of these birds, hiding away close to the ground among and under a net-work of vines and rank herbage, close enough to collect and retain a mantle of snow. When startled at such times they have a low, pleasant chirp as they flutter into sight among the bushes, scattering a little, but only to collect again and seek their snug retreat as soon as left to themselves. Whether rendered careless by the cold, or through a natural heedlessness, they are very tame at such times; they sit unconcernedly on the twigs, it may be but a few feet distant, chirping cheerfully, with the plumage all loosened and puffy, making very pretty "roly-poly" looking objects. There is a particular kind of plant here, the seeds of which endure all winter, furnishing a favorite repast. In a clump of these tall weeds dozens of the birds may be seen together, busily feeding. Some, more energetic, spring up and cling to the swaying panicles, picking away, while others gather about the stem, getting a good dinner, without trouble, off the seeds that their neighbors above rattle down. At such times the whole company keep up an animated conversation, expressing their satisfaction, no doubt, in their own language; it is more than chirping, and not quite singing—a low, soft, continuous chanting, as pleasing as it is indescribable. The Tree Sparrow is, indeed, one of the sweet-voiced of our Sparrows, and one very fond of singing, not only in the spring, but at other seasons; times are hard with it indeed when it can not, on occasion, tune its gentle pipe."

The Yellow-winged Sparrow. (*Coturniculus paperinus.*)

Fig. 3.

A small species of Sparrow-bird that may be met with in almost all sections of the United States in summer, and on the sheltered plains of the sea-coast of New York and New Jersey until the very commencement of winter. In the Middle States it is very abundant.

In colors this species changes somewhat in the different sections of its habitation, of which Mr. Allen relates as follows: "On comparing Florida specimens with northern ones, the former are found to be far more brightly colored than the latter. Between northern and southern specimens of the same species greater differences in color are rarely observable than in this, the differences being far greater than occur between many conspecific geographical races to which have been awarded specific rank. The difference consists in the much brighter and blacker tints of the southern form. Massachusetts specimens, although lighter than Florida ones, are still much darker than those from the Plains. According to Coues:

"The song of the Yellow-winged Sparrow is a humble effort, rather weak and wheezy, but quite curious, more resembling the noise made by some grasshoppers than the voice of a bird. It is only heard in the breeding-season, when the little performer mounts a tall mullein in his chosen pasture, or the fence-rail around it, settles himself firmly on his legs, and throwing up his head, utters the chirring notes *ad libitum*. At other seasons he has only a weak chirp. The bird is very timid, keeping almost always on the ground, amid the weeds and grass, where he runs like a mouse. On being forced up, he starts quickly, with a wayward, jerky flight, but seldom goes far before pitching into the grass again. The nest is placed on the ground, in a field, and resembles that of other Sparrows that build on the ground. As many as nine eggs are said to have been found in one nest, but the number is usually four or five. They are pure white, speckled with rich, clear, reddish-brown, chiefly at the larger end, but sparingly also all over the surface The egg is usually rather globose—0.75 by 0.60 for an average instance."

The Lark Finch. (*Choudestes grammaca,*)

Fig. 4.

One of the most abundant and typical western prairie-birds. They sing sweetly, and, like the Larks, have the habit of continuing their notes while on the wing. This beautiful species is not confined to the Plains, nor is it exclusively terrestrial; it is also observed in wooded, broken, even mountainous regions. In the Middle States it is frequently met with in summer, arriving from the south in May, and leaving among the earliest of Sparrows in autumn, at which time they are often seen gathered together in small troops, rambling in the grass near bushes or small trees. In case of an alarm they resort to the bushes like other Sparrows. In the latter part of May or first of June they construct their nest, which is usually located on the ground, and is constructed of grasses and weeds. "The eggs of this species," says Coues, "are very peculiar in coloration, being white, curiously streaked in zigzag, much like the blackbird's. The markings are sharp and distinct, and heavy in color—a rich, dark, reddish-brown or chocolate; sometimes, where the pigment is thickest, being almost blackish. The markings straggle all over the surface, and are usually accompanied with a few spots of the same color. The egg is noticeably globose, very much rounded at the smaller end, measuring about 0.75 by 0.65. Other specimens, however, are more elongated, measuring as much as 0.85."

When the pairing season commences, the males are very pugnacious, fighting often on the wing, and the conquering rival repairing to the nearest bush, tunes his lively pipe in token of success. This species is six and a half inches long, and eight and a half broad.

The Swamp Sparrow. (*Melospiza palustris.*)

Fig. 5.

This is another abundant species of Sparrow-bird. It is rather more seclusive in its habits than the preceding species, which accounts for its being less generally observed. Coues says: "It is not so decidedly gregarious as some of its allies, and is oftener found skulking alone through rank herbage and tangled undergrowth than in flocks; still, in the fall, I have found considerable numbers together, about the edges of reedy swamps, sharing the shrubbery with the Song-Sparrows, and the reeds with the species *Ammodromus*, between which it forms, in one sense, a connecting link. I have often seen it, though more rarely, in open, wet, grassy places. During the vernal migrations, at Washington, D. C., I used to look for it in the undergrowth fringing tiny streams flowing through open woods, and rarely failed to find it, if I looked close enough in the very heart of such recesses, the skirts of which were full of white-throated Sparrows and other more conspicuous species. I never saw it take a long flight in the open woods; generally it was seen flitting from bush to bush, just over the ground and water, flirting the tail, and uttering its peculiar note. Its chirp is remarkably different from that of any other species, and, with its general reddishness, seems to distinguish it from its associates." Nuttall says that, occasionally, mounted on the top of a low bush or willow-tree, it chants a few trilling, rather monotonous, minor notes, resembling, in some measure, the song of the Field Sparrow, and appearing like *twi, tw' tw' tw tu tu twe*, and *twe' twe' tu' tu' twe';* uttered in a pleasing and somewhat varied warble. In New England, they arrive from the Southern States, where they winter, about the middle of April, and take up their summer residence in the swamps and marshy meadows, through which often, without flying, they thread their devious way with the same alacrity as the Rail, with whom they are indeed often associated in neighborhood. They express extreme solicitude for their young, even after they are full-fledged and able to provide

for themselves. The young also, in their turn, possess uncommon cunning and agility, running and concealing themselves in the sedge of the wet meadows. Their robust legs and feet, as well as long claws, seem purposely provided to accelerate this clinging and running on the uneven ground. The length of this species is six inches, and its breadth is eight inches.

The Chipping Sparrow. (*Spizella socialis.*)

Fig. 6.

With the Song Sparrow, this species is probably the most numerous, common, and familiar bird in the United States; inhabiting from the Atlantic to the Pacific. Breeds chiefly in Middle and Southern States. Winters in the Southern States and south into Mexico. It is also very abundant in Cuba. Nuttall says: "Aware of the many parasitic enemies of the feathered race which it has to encounter, who prowl incessantly, and particularly in quest of its eggs, it approaches almost instinctively the precincts of houses, barns, and stables, and frequently ventures into the center of the noisy and bustling city to seek, in the cultivated court, an asylum for its expected progeny. Soon sensible of favor or immunity, it often occupies with its nest the thick shrubs of the garden within a few yards of the neighboring habitation, by the side, perhaps, of a frequented walk, in the low rose-bush, the lilac, or any other familiar plant affording any degree of shelter or security, and will, at times, regularly visit the threshold, the piazza, or farm-yard for the crumbs which intention or accident may afford it. On other occasions, the orchard-trees are chosen for its habitation, or in the lonely woods, an evergreen, cedar, or fir, is selected for the purpose. It makes no pretentions to song, but merely chips, in complaint, when molested; or mounting the low boughs of some orchard-tree or shrub, utters a quickly-articulated ascending *'tsh 'tsh 'tsh 'tsh 'tsh tshe tshé*, almost like the jingling of farthings, and a little resembling the faint warble of the Canary, but without any of its variety or loudness. This note, such as it is, is continued often for half an hour at a time, but is little louder than the chirping of a chicken, and uttered by the male while attending his brooding mate. For many weeks through the summer, and during fine weather, this note is often given, from time to time, in the night, like the reverie of a dream. The nest of the Chipping Bird varies sometimes considerably in its materials and composition. The external layer, seldom so thick but that it may be readily seen through, is composed of dry stalks of withered grass, and lined more or less with horse or cow-hair. The eggs are four or five, of a bright though not deep greenish-blue color, with a few spots of dark and lighter brown, chiefly disposed at the greater end. They are usually narrowed considerably at the small end, though occasionally they are almost oblong. The cuckoo destroys many eggs of this timid, harmless, and sociable little bird, as their nests are readily discovered, and numerous. On such occasions, the little sufferer expresses great and unusual anxiety for the security of her little charge; and after being repeatedly robbed, the female sits closely sometimes upon perhaps only two eggs, desirous at any rate to escape, if possible, with some of her little offspring. They raise two or more broods in the season. The species is about five inches long, and eight inches broad.

American Goldfinch.—Thistle-bird.—Yellow-bird. (*Chrysomitris tristis.*)

Fig. 7.

There is quite a resemblance between this species and the Canary, and many persons have attempted to pair them together, but it has generally proven unsuccessful. The flight, and manners during it, are described by Audubon with minuteness. It is exactly similar to the European bird of the same name, being performed in deep curved lines, alternately rising and falling, after each propelling motion of the wings. It scarcely ever describes one of those curves without uttering two or three notes while ascending, such as its European relative uses on similar occasions. In this manner its flight is prolonged to considerable distances, and it frequently moves in a circling direction before alighting. Their migration is performed during the day. They seldom alight on the ground, unless to procure water, in which they wash with great liveliness and pleasure; after which they pick up some particles of gravel and sand. So fond of each other's company are they, that a party of them soaring on the wing will alter their course at the calling of a single one perched on a tree. This call is uttered with much emphasis. The bird prolongs its usual note, without much alteration, and, as the party approaches, erects its body, and moves to the right and left, as if turning on a pivot, apparently pleased at showing the beauty of its plumage and elegance of its manners.

Nuttall says: "As the fine weather of spring approaches, they put off their humble winter dress, and the males, now appearing in their temporary golden livery, are heard tuning their lively songs, as it were, in concert—several sitting on the same tree, enjoying the exhilarating scene, basking and pluming themselves, and vying with each other in the delivery of their varied, soft, and cheerful warble. They have also the faculty of sinking and raising their voices in such a delightful cadence, that their music at times seems to float on the distant breeze, scarcely louder than the hum of bees; it then breaks out, as it were, into a crescendo, which rings like the loud song of the Canary. In cages, to which they soon become familiar and reconciled, their song is nearly as sonorous and animated as that of the latter. When engaged in quarrel, they sometimes hurl about in a whole flock—some, as it were, interfering to make peace, others amused by the fray, all uttering loud and discordant chirpings. One of their most common whining calls, while engaged in collecting seed in gardens, when they seem to be sensible of their delinquency, is, *'may bé, 'may bé.* They have also a common cry, like *'tshevect 'tshévee*, uttered in a slender, complaining accent. These, and some other twittering notes, are frequently uttered at every impulse, while pursuing their desultory, waving flight, rising and falling as they shut or expand their laboring wings. They are partial to gardens and domestic premises in the latter end of summer and autumn, collecting oily seeds of various kinds, and shelling them with great address and familiarity if undisturbed—often hanging and moving about, head downward, to suit their convenience, while thus busily and craftily employed. They have, like the true Goldfinch, a particular fondness for thistle-seeds, and those of other compound flowers, spreading the down in clouds around them, and at this time feeding very silently and intently. Nor are they very easily disturbed while thus engaged in the useful labor of destroying the germs of these noxious weeds. They do some damage occasionally in gardens by their indiscriminate destruction of lettuce and flower-seeds, and are therefore often disliked by gardeners; but their usefulness in other respects far counterbalances the trifling injuries they produce."

The nests are often built in tall young forest-trees or lofty bushes, as in the sugar-maple, elm, spire-bush, and cornel. They are made of strips of bass, hemlock bark, and root fibers, with a filling at times of withered downy stalks of apple-tree leaves, old oak catkins, and other softish rubbish; then bedded and lined within with thistle-down, the pappus of the buttonwood, or sometimes cow-hair, and fine bent grass.

This bird belongs to a group famous for their docility and aptitude to instruction to perform a variety of tricks. Audubon relates that they are often caught in trap-cages; and that he knew one, which had undergone severe training, draw water for its drink from a glass, by means of a little chain fastened to a soft, leathern belt round its body, and another, equally light, fastened to a little bucket, which was kept by its weight in the water. It was also

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obliged to supply itself with food, by being obliged to draw toward its bill a little chariot filled with seeds. The length of this species is five inches, and its breadth eight inches.

(See page 84 for Fig. 8.)

The Red-poll Linnet. (*Ægiothus linarius.*)

Fig. 9.

The habitat of this species ranges from the Atlantic to the Pacific, and in winter to the South in flocks, at which season it is also met with in the Middle and Western States. According to Richardson, this is one among the few hardy and permanent residents in the fur countries, where it may be seen in the coldest weather, on the banks of the lakes and rivers, hopping among the reeds and canes, or clinging to their stalks. They are numerous throughout the year, even in the most northern districts, and from the rarity of their migrations into the United States, it is obvious that they are influenced by no ordinary causes to evacuate the regions in which they are bred. Famine, in all probability, or the scarcity of food, urges them to advance toward the south. It is certain that they do not forsake their natal regions to seek shelter from the cold. A similar species is at home throughout Europe.

When in a wild state, elder-berries are its favorite food, though it also eats linseed, rape-seed, etc., moistening all its food in its crop before subjecting it to the process of digestion. Wilson says: "They seem particularly fond of the seeds of the common elder, and hang, head downward, while feeding, in the manner of the Yellow-bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm." "After being shot at," says Nuttall, "they only pass on to the next tree, and resume their feeding as before. They have a quailing call perfectly similar with that of the Yellow-bird, *twée twée*, or *tshe-vée;* and when crowded together in flight, make a confused chirping *'twit 'itwit 'twit 'twit 'twit*, with a rattling noise, and sometimes go off with a simultaneous twitter." This species is commended mostly on account of the beauty of its plumage. "It may, however, be taught," says Bechstein, "to draw up its own water, and perform other similar feats, as well as to eat out of its master's hand." It is a very affectionate bird, constantly caressing not only its own mate, but even Linnets, Goldfinches, Siskins, and Canaries, if confined in the same cage. It seems, therefore, not improbable that it might be induced to pair with some, if not all of these. "The nest," says Selby, "is built in a bush or low tree, such as willow, elder, or hazel, of moss and the stalks of dry grass, intermixed with down from the catkin of the willow, which also forms the lining, and renders it a particularly soft and warm receptacle for the eggs and young. The eggs are four or five in number; their color, pale bluish-green, spotted with orange-brown, principally toward the larger end." This species is five inches and a quarter long, and eight inches and a half broad.

The Purple Finch. (*Carpodacus purpureus.*)

Fig. 10.

This is a fine-looking bird, and it has a beautiful warbling song. But in consequence of its bad habit of cutting off and eating the buds and blossoms of fruit-trees, it is much disliked by the farmers and fruit-growers. Of its habits, Wilson says: "This is a winter bird of passage, coming to us in large flocks from the north in September and October; great numbers remaining with us in Pennsylvania during the whole winter, feeding on the seeds of the poplar, buttonwood, juniper, cedar, and on those of many rank weeds that flourish in rich bottoms and along the margin of creeks. When the season is very severe, they proceed to the South, as far at least as Georgia, returning north early in April. They now frequent the elm-trees, feeding on the slender but sweet covering of the flowers; and, as soon as the cherries put out their blossoms, feed almost exclusively on the stamina of the flowers. Afterward the apple-blossoms are attacked in the same manner; and their depredations on these continue till they disappear, which is usually about the 10th or middle of May. . . . About the middle of September, I found these birds numerous on Long Island, and around Newark, in New Jersey. They fly at a considerable height in the air; and their note is a single chirp, like that of the Rice-bird. They possess great boldness of spirit, and when caught, bite violently, and hang by the bill from your hand, striking with great fury; but they are soon reconciled to confinement, and in a day or two are quite at home. I have kept a pair of these birds upward of nine months to observe their manners. One was caught in a trap, the other was winged with the gun. Both are as familiar as if brought up from the nest by the hand, and seem to prefer hempseed and cherry-blossoms to all other kinds of food. Both male and female, though not crested, are almost constantly in the habit of erecting the feathers of the crown. They appear to be of a tyrannical and domineering disposition; for they nearly killed an Indigo-bird, and two or three others that were occasionally placed with them, driving them into a corner of the cage, standing on them, and tearing out their feathers, striking them on the head, munching their wings, etc., till obliged to interfere; and, even if called to, the aggressor would only turn up a malicious eye for a moment, and renew his outrage as before. They are a hardy, vigorous bird."

Within late years there seems to be a greater increase of this species, and it is now considered a common bird, particularly in spring and fall. The nest is usually built in a pine or cedar tree, and is sometimes thirty or even forty feet from the ground—oftener about fifteen or twenty. It consists of fine roots and grasses, and is lined with horse-hair, mosses, and hogs' bristles. The eggs are of a bluish-green color, and marked with spots and streaks of black. Two broods are often reared in the season. This species is six inches long, and in extent it is nine inches.

PLATE XLIX.

The Savanna Sparrow. (*Passerculus savanna.*)

Fig. 1.

In colors, this bird has a close general likeness to other species of the family of Finches—a fact which renders it absolutely necessary to represent all the different species, so that they may become more familiar.

It may safely be said to be abundant in all parts of North America—in the fields, on the plains, and by the waysides. In winter, it is mostly met with along the seashore, near the low countries on the Atlantic coast, where the seeds and insects they feed on are most abundant. Its nest is made in the grass, and is composed of fine grasses and roots, neatly interwoven. They usually lay four eggs, grayish-white or pale greenish, and are slightly spotted. Their mating song is simple and melodious, resembling the syllables *'chewie*, *'chewitt*, *'chewitt*, *'chewé-et*, *'chewée*. It also has a quite faint, yet shrill, chirp, somewhat similar to the chirpings of a cricket. This species is four and a half inches long, and eight and a half broad.

The Pine Finch. (*Chrysomitris pinus.*)

Fig. 2.

Although this species, as its name implies, is mostly found inhabiting the groves and pine forests, it may also be seen frequenting the shady, sheltered borders of creeks and rivulets. Where-

ever the pine trees are, these birds may be met with in flocks from fifteen to thirty. It is generally distributed over North America, and is chiefly a winter visitor to the United States. It is difficult to define its exact limits, which are dependent on the weather and scarcity of food. At uncommon times it will make its appearance in places where it had before never been seen. According to Nuttall: "They are by no means shy, and permit a near approach without taking alarm, often fluttering among the branches in which they feed, hanging sometimes by the cones, and uttering notes very similar to those of the American Goldfinch. They hang upon the twigs with great tenacity, and move about, while feeding, in reversed postures, like the Chickadees. After being shot at, they only pass on to the next tree, and resume their feeding, as before. They have a quailing call of *twee*, *twei*, or, *tshe-vee;* and, when crowding together in flight, make a confused chirping—*'twit*, *'itwit*, *'twit*, *'twit*, *'twit*—with a rattling noise, and sometimes go off with a simultaneous twitter. Occasionally they descend from their favorite birches, and pick up sunflower seeds and those of the various weedy *chenopodiums* growing in wastes."

According to Richardson, this is one among the few hardy and permanent residents in the fur countries, where it may be seen in the coldest weather, on the banks of lakes and rivers, hopping among the reeds and canes or clinging to their stalks. They are numerous throughout the year, even in the most northern districts; and from the rarity of their migrations into the United States, it is obvious that they are influenced by no ordinary causes to evacuate the regions in which they are bred. Famine, in all probability, or the scarcity of food, urges them to advance toward the south. It is certain that they do not forsake their natal regions to seek shelter from the cold. The nest is composed of pine twigs, and stalks of dried grass, intermixed with tufts of wool, and warmly lined with hair and feathers. The eggs of this species are pale-greenish, varied with numerous reddish spots, disposed at the larger end. The length of this species is about four inches, and its breadth eight inches.

The Field Sparrow. (*Spizella pusilla.*)

Fig. 3.

This is one of our small species of Sparrows. It winters in the Southern States, where it may be seen in great numbers, mingling with other species of similar habits, near fences and straggling bushes, their brown plumage giving them a close resemblance to the color of the falling leaves. On the return of spring they leave their Southern home to disperse in pairs through the Northern States to breed. The nest, which is built in May, is usually made of fine stalks of dried grass and small leaves, and placed on the ground, under shelter of some small bush or in the bush, and is lined with fine grass and horse-hair. The eggs vary from four to six in number, of a bluish-white ground color, sprinkled with spots of reddish-brown. They raise two broods in a season, sometimes three.

Samuels says: "The male sings during the season of incubation, and, indeed, through nearly all the summer. Mounted on a low tree or fence-rail, he utters his pleasing, yet plaintive ditty at early morning and evening, and, in dark and cloudy weather, through the whole day. The song is a peculiar warble, something like the syllables *'te-'de*, *'de*, *'de*, *'de*, *'de*, *'de*, *'d*, *'d*, *'d*, *'d*, uttered at first low, and rapidly increasing, and then decreasing in tone to a faint chatter, something like the twitter of the Chipping Sparrow. The food of this species, like most Sparrows, consists of insects, seeds, and moth. Early in the fall they leave for the South, although some are met with in the North during winter, at which time they become very tame. The length of this species is five and a quarter inches, and its breadth is eight inches.

The Sea-side Finch. (*Ammodromus maritimus.*)

Fig. 4.

This species confines its habitation almost entirely to the sea-side, moving for inland situations only after violent easterly storms have taken place. It is seldom found more than about ten miles inland from its favorite retreats. When the high tides, says Wilson, compel it to seek the shore, it courses along the margin, and among the holes and interstices of the weeds and sea-wrack, with a rapidity equaled only by the nimblest of our Sand-pipers, and very much in the same manner. At these times, also, it roosts on the ground, and runs about after dusk. Nuttall says: "It derives its whole subsistence from the margin of the ocean, and its flesh is even imbued with the rank or fishy taste to be expected from the nature of its food. At other times it remains amidst the thickest of the sea-grass, and climbs upon the herbage with as much dexterity as it runs on the ground. Its feet and legs, for this purpose, are robust, as in the Swamp Sparrow." According to Audubon, they nest on the ground, in the bushy parts of the salt-marshes which are elevated above the flow of the tides. This habitation is made of coarse grass, and lined with finer portions of the same. The eggs are four to six in number, grayish-white, speckled over with brown. They appear to rear two broods in the season. In May and June, the Sea-side Finch may be seen almost at all hours, perched on the top of some rank weed, near the salt-marsh, singing with much emphasis the few notes which compose his monotonous song. When approached, it seeks refuge in the rank grass, by descending down the stalks, or flies off to a distance, flirting its wings, and then alighting suddenly, runs off with great nimbleness. This species is six and a quarter inches long, and eight and a quarter broad.

The Yellow-throated Vireo. (*Vireo flavifrons.*)

Fig. 5.

Nuttall's account of this species is so full and satisfactory that we give it in whole:

"This species of Vireo, or Warbling Fly-catcher, visits the Middle and Northern States of the Union about the beginning of May, or as soon as his insect food allows him a means of subsistence. He resides chiefly in the forests, where he hunts his tiny prey among the high branches; and, as he shifts from twig to twig in the restless pursuit, he often relieves his toil with a somewhat sad and indolent note, which he repeats, with some variation, at short intervals. This song appears like *'preea*, *'preea*, etc., and it sometimes finishes with a complaining call of recognition, *'prreaigh*, *'prreaigh*. These syllables rise and fall in different tone as they are repeated, but though usually sweet and impressive, are delivered too slow and solemn to be generally pleasing; in other respects, they considerably resemble the song of the Red-eyed Warbling Fly-catcher, in whose company it is often heard blending its deep but languid warble with the loud, energetic notes of the latter, and their united music, uttered during summer, even at noon-day, is rendered peculiarly agreeable, as nearly all the songsters of the grove are now seeking a silent shelter from the sultry heat. In the warmest weather, the lay of this bird is indeed peculiarly strong and lively; and his usually long-drawn, almost plaintive notes, are now delivered in fine succession, with a peculiar echoing and impressive musical cadence, appearing like a romantic and tender reverie of delight. The song, now almost incessant, heard from the roving, sylvan minstrel, is varied in bars nearly as follows: *prea prea preoe*, *preait preoit p'rriweet preeae*, *pewai praiou*, *pruai preeo*, *praoit*, *preeo preawit preeoo*. When irritated, he utters a very loud and hoarse mewing, *praigh praigh*. As soon, however, as the warm weather begins to de-

cline, and the business of incubation is finished—about the beginning of August—this sad and slow but interesting musician nearly ceases his song, a few feeble, farewell notes only being heard to the first week in September.

"This species, like the rest of the genus, constructs a very beautiful pendulous nest, about three inches deep, and two and a half in diameter. One, which I now more particularly describe, is suspended from the forked twig of an oak, in the near neighborhood of a dwelling-house in the country. It is attached firmly all around the curving twigs by which it is supported; the stoutest external materials or skeleton of the fabric are formed of interlaced folds of thin strips of red cedar bark, connected very intimately by coarse threads, and small masses of the silk of spiders' nests and of the cocoons of large moths. These threads are moistened by the glutinous saliva of the bird. Among these external materials are also blended fine blades of dry grass. The inside is thickly bedded with this last material and fine root fibers; but the finishing layer, as if to preserve elasticity, is of rather coarse grass stalks. Externally, the nest is coated over with green lichen, attached very artfully by slender strings of caterpillars' silk, and the whole afterward tied over by almost invisible threads of the same, so as to appear as if glued on; and the entire fabric now resembles an accidental knot of the tree grown over with moss. The eggs, about four, are white, with a few deep ink-colored spots of two shades, a very little larger than those on the eggs of the Red-eyed Vireo, and chiefly disposed toward the larger end."

The food of this species during summer is insects, but toward autumn they and their young feed also on various small berries. About the middle of September, the whole move off and leave the United States, probably to winter in tropical America.

This species is five and one-half inches long, and nine inches broad.

The Blue-headed or Solitary Vireo. (*Vireo solitarius.*)

Fig. 6.

The habits and characteristics of this species—one of the rarest of the genus—are similar to the preceding. On the nidification of this species, Mr. Thomas G. Gentry, in a paper to the Philadelphia Academy, says: "I have five nests of this species, four of which are perfectly similar in structure; the remaining one formed of culms of a species of *aira*, constituting an exceptional case, and the only one that has ever fallen under my notice. They are all shallow, loose in texture, scarcely surviving the season for which they were designed, and placed between two twigs of a cedar or a maple tree, at a considerable elevation from the ground, on a branch nearly horizontal to the main axis. They are built entirely of clusters of male flowers of *Quercus palustris*, which, having performed their allotted function, don their brownish hue at the very period when they can be utilized." This species is five inches long, and eight inches broad.

The White-eyed Vireo. (*Vireo noveboracensis.*)

Fig. 7.

This neat and interesting little bird appears to have a more general distribution than it has been credited with. It is very numerously to be met with in the Middle States, from the latter part of March to October. It is very active in its movements, and is mostly found in low thickets and swamps, seldom in the forests. It winters in the Gulf States and southward. This species, at times, avoids certain districts within its general range of migration. Its active manners, loud and cheering notes, make it a noted bird. Nuttall says: "I first heard its voice in the low thickets of West Florida. His ditty was now simply—*ss't* (with a whistle) *wa witte witte we wa* (the first part very quick). . . . On the 22d of June, I heard the male in full song near his nest, when incubation was going on. His warble was very pleasing, though somewhat monotonous and whimsical. This affectionate note, often repeated near to his faithful mate while confined to her nest, was like *'tshippewee-wasay*, *'tshippewee-wee-wassay*, sweetly whistled, and with a greater compass of voice and loudness than might have been expected from the size of the little vocalist. The song is sometimes changed two or three times in the course of twenty minutes; and I have heard the following phrases: *'att tshippewat 'wurr*, *tshippewat 'wurr;* at another time, *'tshipeway 'tshi o ct 'tsherr*. On another visit, the little performer had changed his song to *'pip te waigh a tsherra*, with a guttural trill, as usual, at the last syllable. He soon, however, varied his lay to *'whip te woi wee*, the last syllable but one considerably lengthened and clearly whistled. Such were the captious variations of this little quaint and peculiarly earnest musician, whose notes are probably almost continually varied."

This bird, like others of its genus, builds its nest in a thicket of briers or vines, in gardens or fields. It is made of slender twigs, bark of trees, grasses, pieces of hornets' nests, fragments of paper, and sometimes newspapers; the interior is composed of slender root-fibers. The whole is pencil-shaped, and suspended by the upper edge. The eggs number four or five, marked at the larger end with a few small spots of blackish-brown. When the nest is approached, this bird descends within a few feet of the intruder, and becomes very loud and earnest in its demonstrations. Its food, so like all Vireos, consists of insects and various kinds of berries. This species is five inches long, and eight inches broad.

The Red-eyed Vireo. (*Vireo olivaceus.*)

Fig. 8.

This is one of our most numerous and popular birds. Its migrations extend over most every part of the American continent, from Labrador to the large tropical islands of Jamaica, St. Domingo, and the mild table-lands of Mexico. It arrives in the Middle States, from the warmer regions where it winters, the latter part of April. It is mostly to be seen in woodlands, or tall shade-trees near gardens, and in the apple-trees near the farm-houses. From its arrival, until the middle of summer, it is one of the most determined songsters of the forests. When most all the song-birds have become silent, its notes may yet be heard with unabated vigor. "When our Vireo," says Nuttall, "sings slow enough to be distinctly heard, the following sweetly warbled phrases, variously transposed and toned, may often be caught by the attentive listener: *'tshooe pewee peeai musik 'du 'du 'du 'tshoove 'here here here here 'k'ing ritshard 'p'shegru 'tsheevoo 'tshuvee peeait 'peroi*; the whole delivered almost without any sensible interval, with earnest animation, in a pathetic, tender, and pleasing strain, well calculated to produce calm and thoughtful reflection in the sensitive mind. Yet, while this heavenly reverie strikes on the human ear with such peculiar effect, the humble musician himself seems but little concerned; for all the while, perhaps, that this flowing chorus enchants the hearer, he is casually hopping from spray to spray in quest of his active or crawling prey, and if a cessation occurs in his almost untiring lay, it is occasioned by the caterpillar or fly he has just fortunately captured. So unaffected are these delightful efforts of instinct, and so unconscious is the performer, apparently, of this pleasing faculty bestowed upon him by nature, that he may truly be considered as a messenger of harmony to man *alone*. Wantonly to destroy these delightful aids to sentimental happiness, ought therefore to be viewed not only as an act of barbarity, but almost as a sacrilege!"

In May, this species builds a small, neat, pensile nest, and is hung from the fork of a small limb of a tree, about twelve feet from the ground. The eggs usually are four in number, pure

white in color, marked on the round end with a few small dots of reddish or brown. This bird is five and a half inches long, and seven and a quarter broad.

The Warbling Vireo. (*Vireo gilvus.*)

Fig. 9.

Throughout the most of the United States, this species is generally to be seen in the thick and leafy branches of our tallest trees, in search of food. It is seldom seen in the deep forests. The tall trees along our streets and lanes, secured from his dreaded enemies, afford this exquisite songster ample safety to cheer the inmates of the houses and cottages. "Its voice is not strong, and many birds excel it in brilliancy of execution; but not one of them all can rival the tenderness and softness of the liquid strains of this modest vocalist. Not born to 'waste its sweetness on the desert air,' the Warbling Vireo forsakes the depths of the woodland for the park and orchard and shady street, where it glides through the foliage of the tallest trees, the unseen messenger of rest and peace to the busy, dusty haunts of men."—*Coues.*

The nest, which is usually built in tall trees, is composed of grass, leaves, and strips of grape-vine bark. The eggs, usually four, are white, thinly spotted with reddish-black at the larger end. This bird is five and a quarter inches long and eight inches broad.

The Least Flycatcher. (*Empidonax minimus.*)

Fig. 10.

It is singular that a bird so abundant as this is in the Eastern United States should have been overlooked by Wilson and Audubon, or, what is more probable, confounded with *E. acadicus.* Nuttall was perfectly familiar with it, though he thought it was the Acadian Flycatcher. It is very common in the Middle States during the migrations. At Washington, D. C., it usually arrives the last week in April, and is seen for about two weeks only; it returns the last of August, and loiters through most of September. It breeds abundantly in most parts of New England; in Massachusetts, Mr. Allen found it as numerous as all the other *Empidonaces* put together. Some individuals press on into the Hudson's Bay country, and in the West its extension is much greater than that of typical *traillii* or *flaviventris*, particularly along the Missouri itself, and the Red river, where the wooded river-bottoms afford it congenial shelter. Like others of the genus, it penetrates to Central and Northern South America in winter, and it is also quoted from portions of Mexico.

It is not ordinarily found in gloomy woods, like *E. acadicus*, nor even in heavy timber of any kind; it prefers the skirts of woods, coppices, and even hedge-rows. It is readily distinguishable from *acadicus* by this circumstance alone, to say nothing of the several personal peculiarities—so to speak—slight traits, almost impossible to describe intelligently, but which the field-naturalist learns to recognize in a moment. Its usual voice is lower and more plaintive, though one of its call-notes is sharp and jerky; and its flight is slightly different, owing to the marked difference in the shape of the wing. In all these particulars it comes much nearer *traillii* and *flaviventris*, as has been already hinted.

The bird generally nests on a sapling or shrub, within ten or twelve feet from the ground. One nest I reached without climbing, and another was placed on a slender swaying elm, about forty feet high; these were the extremes of situation I observed. It is always placed, so far as I discovered, in an upright crotch of several forks, preferably between twigs no thicker than a finger. The high nest just mentioned was situated on the bending trunk itself, but it rested, as usual, between a little set of twigs that grew upright. It is very deeply let down into the crotch, and usually bears deep impressions of the boughs. The female sets very closely; one I almost covered with my hand before she fluttered off, although I stood for several moments within a yard of her. On being frightened away, she retreats but a little distance, and flies from one twig to another, uttering a mournful note. The nest is a neat little structure; if it were only stuccoed with lichens, it would be as elegant as that of a Blue-gray Gnatcatcher, which it scarcely exceeds in size. The basis of the nest is a substantial intertwining of fine fibrous inner-bark, and the decomposing outer substance of various weeds. With this is matted a great quantity of soft plant-down, making a soft yet firm and warm fabric. The interior is finished variously with a special lining of plant-down, confined with a slight layer of horse-hair or the finest possible grass-tops. The brim of the nest is firm and even, with a circular arrangement of the fibers; inside, the lining is simply interlaced. In size, these elegant structures vary a good deal; the smallest one before me is under two inches and a half across outside, and less than two deep; another, which was let down very deeply in a narrow crotch, is nearly three inches, both in depth and width, and is quite unsymmetrical. The cavity is quite large for the outside dimensions, in some instances the walls being barely coherent along the track of the supporting twigs; it is not, or but little, contracted at the brim, and is about as deep as wide.

The eggs are generally four in number, sometimes only three; I did not find five in any one of the six nests collected. One contained a Cow-bird's egg. The eggs are pure white, unmarked. They vary much in size and shape. Out of twenty examples, a large elongate one measures 0.68 by 0.52; a small globular one, 0.59 by 0.50; a normal one, 0.65 by 0.50.—*Coues.*

PLATE L.

The Olive-sided Flycatcher. (*Contopus borealis.*)

Fig. 1.

The very general dispersion of this species in North America only gradually become apparent. It was discovered by Sir John Richardson on the Saskatchewan, at Cumberland House, in latitude 54°, and described in 1831 by Mr. Swainson, as above cited. It was rediscovered by Mr. Nuttall, a specimen being obtained near Cambridge, Massachusetts, in June, 1830. This gentleman obtained several others in the same vicinity, and described its notes and manners accurately. The nest, he states, was on "the horizontal branch of a tall cedar-tree, forty or fifty feet from the ground. It was formed much in the manner of the Kingbird's, externally made of interlaced dead twigs of the cedar, internally of the wiry stolons of the common cinquefoil, dry grass, and some fragments of branching *Lichen* or *Usnea*. It contained three young, and had probably four eggs. The eggs had been hatched about the 20th of June, so that the pair had arrived in this vicinity about the close of May. The young remained in the nest no less than twenty-three days." The same author speaks of the eggs as "yellowish-creamy white, with spots of reddish-brown, of a light and dark shade." This is exactly the character of the specimens before me. The size is about 0.84 by 0.66. About the same time Dr. Brewer communicated a note to Mr. Audubon, describing the nest as follows: "Measures five inches in external diameter and three and a half inches in internal, and is about half an inch deep. It is composed entirely of roots and fibers of moss. It is, moreover, very rudely constructed, and is almost wholly flat, resembling the nest of no other Flycatcher I have seen, but having some similitude to that of the Cuckoo." New England quotations have continually multiplied, many referring to the breeding of the bird from Massachusetts northward; quite lately, Mr. Brewster says, in Mr.

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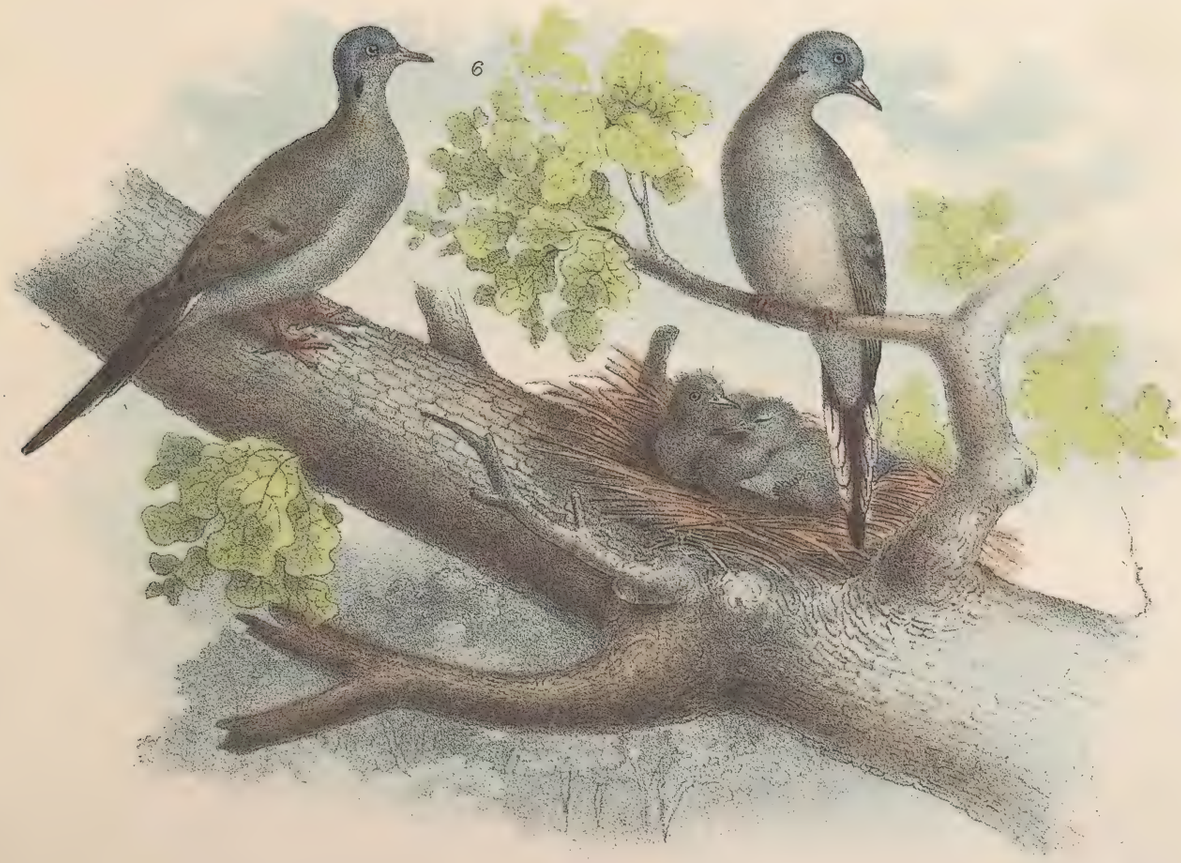
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Maynard's book above quoted, that it nests generally in the fork of a pine-tree, the only nest found by him in any other situation being placed on the outer limb of an apple-tree. Mr. Audubon mentions the Magdaleine Islands and Labrador as other localities. In the reverse direction, the bird has been traced in New York, New Jersey, and Pennsylvania, but I never saw it in Maryland or Virginia; and in including it in my South Carolina list, I relied entirely upon Prof. R. W. Gibbes, of Charleston. He very likely included it on the strength of Audubon's statement of its occurrence in Georgia. The rarity of the bird, along the whole Atlantic coast south of New England, may be inferred from the foregoing.

Turning now to the west, we find Audubon again quoting Nuttall for its occurrence "in the dark fir-woods of the Columbia." This is corroborated by Dr. Cooper, who says that the Olive-sided Flycatcher "is very common, arriving early in May, and frequenting the borders of woods, where, from the summit of some tall, dead tree, its loud, melancholy cry resounds through the day, during the whole of summer. It frequents the small pine-groves along the coast, as well as in the interior, and remains until late in September." More recently, the same observer gives the species as "resident" in most parts of California, stating that he found them rather common in the coast-range toward Santa Cruz, where they had nests in May; and saw them at Lake Tahoe in September. In Colorado, according to Mr. Trippe, it breeds, though it is not very common. "This Flycatcher," he says, "arrives at Idaho Springs late in May, and remains till late in August or early in September. It is quite uncommon, only three or four pairs having been observed throughout the summer, and these at widely different points, each pair apparently monopolizing a wide range. It keeps in the tops of the trees, and is an active Flycatcher; its voice is loud and distinct; and its nest is placed in the top of a pine, and zealously guarded from all intrusion with as much fierceness and energy as the Kingbird's." I did not observe it any season in Arizona, but the presumption is that it visits that Territory, since it is known to go south, through Mexico, and to Central America. —*Coues.*

The Red-bellied Nuthatch. (*Sitta canadensis.*)

Fig. 2.

"This pretty little bird is four inches long, and seven and three-quarters broad. It is usually found with the Chickadees and smaller Woodpeckers, busily engaged in search of food. Its habits are similar to the last named. It is equally as active and industrious in search for the larvæ and eggs of insects, which it obtains by boring in the bark, and knocking off the moss and dead pieces of trees with their sharp, powerful bills.

"This bird is particularly fond of the seeds of pine-trees. You may traverse many thousand acres of oak, hickory, and chestnut woods, during winter, without meeting with a single individual; but no sooner do you enter among the pines than, if the air be still, you have only to listen for a few moments, and their notes will direct you where to find them."—*Wilson.*

It is a hardy bird, and many spend the winter as far north as Nova Scotia. A few are said to winter in the Southern States.

Audubon says: "I found it building its nest, near Eastport, in Maine, on the 19th of May, before the Bluebird had made its appearance there, and while much ice still remained on the northern exposures. The nest is dug in a low, dead stump, seldom more than four feet from the ground, both the male and female working by turns until they have got to the depth of about fourteen inches. The eggs, four in number, are small, and of a white color, tinged with a deep blush, and sprinkled with reddish dots. They raise, I believe, only one brood in the season."

The Wood Pewee. (*Contopus virens.*)

Fig. 3.

This species usually makes its appearance in the eastern part of Pennsylvania in the latter part of April, and commences building about the middle of May. It prefers the loneliness of the forest generally, to the busy haunts of man. It is described by writers as being more retired in its habits than its cousins, as well as more suspicious. In my early ornithological peregrinations, I had always encountered it far from the scenes of active life, its nest being found in the recesses of dense forests, saddled upon the horizontal limb of some gigantic, high-towering oak. Last spring I was surprised to meet with several within a few yards of occupied dwellings, in the midst of a rather thickly settled portion of our town. These nests were fixed upon the horizontal branches of apple-trees, at elevations less than ten feet from the ground. The trees had been often visited by several of my pupils, who had even whiled their leisure moments away underneath their sheltering boughs, while the mother-birds sat within their cozy nests overhead, apparently in the enjoyment of calm satisfaction and perfect security.

It is true that birds originally conceive very unfavorable opinions of man, and seek safety and immunity from his presence in interminable forests and impenetrable undergrowth, under the fancied belief that he is their inveterate foe; but through the habit of association, or accidental intrusion into his presence, they have learned more of his nature, particularly in these latter times when the law is their protection, and from holding him aloof as a being to be hated, they begin to see his good qualities, and draw near to his dwellings and render to him manifold services.

Nuttall's description of the nest of this species, which has the credit of being the best that is recorded, may have been a faithful portraiture thereof in his day, and no doubt will be found to hold good in various sections, as it does in New England, according to the authority of Samuels; but in this section of the country it is somewhat different, and needs remodeling. Instead of being universally saddled upon an old moss-grown and decayed limb, I have frequently seen it resting between the forked twigs of an oak, and one that was in a perfectly living condition. The body of the fabric occasionally consists of wiry grass or root-fibers, but I have never detected the small branching lichens held together with cobwebs and caterpillars' silk, moistened with saliva. In a nest which I have before me, which can be taken as a type, the bulk of it is made up entirely of small strips of liber plucked from trees and fence-rails, tow, and wool, arranged in a circular manner, and pressed compactly together by the body of the bird. One of the most prominent features of the nest is its external coating of bluish-gray crustaceous lichens, of the kind that are found upon the trunks of trees, which give it a very close resemblance to that of the Hummingbird, which it nearly rivals in symmetry and beauty.

When the nests are saddled upon the limb, there is much saving of material, economy doubtless being practiced at the expense of the comfort of the young. The bottom of the nest is so slight, that upon being detached from the branch, it presents a sieve-like appearance. In those that have been placed in the angle constituted by two uniting twigs, there has always been an abundance of material, thus making a soft and comfortable nest for the tender brood.

The habit of constructing the nest upon the superior face of a branch was doubtless acquired in order to secure protection, the nest in this position presenting to an enemy at a distance the semblance of an anomalous growth, overgrown with moss, such as are sometimes found upon the diseased branches of the oak.

I have taken the nests of this species during the latter part of July and the early part of August, with eggs, but whether a second laying or not I am not prepared to say; possibly the work of birds

that had been debarred the essential duties of incubation earlier in the season, since this desire is so innate as to be foregone with difficulty.—*Gentry.*

Traill's Flycatcher. (*Empidonax traillii.*)

Fig. 4.

It requires great care to distinguish this bird from the Least Flycatcher and the Green-crested Flycatcher, their plumage being very similar, as are also their habits. Naturalists, who make ornithology a study, have been very much confused and mistaken in their descriptions of this species. It is said to be entirely withdrawn from the United States during the fall season, and to winter in Central America. According to eastern ornithologists, it breeds in their section. Maynard says: "This species has a peculiar note, like the syllables '*ke-win'k*'; this is not so quickly given as the '*se-wic'k*' of *E. minimus*, and is somewhat harsher. There is, perhaps, thirty seconds interval between each '*ke-win'k*.' The birds, while singing, were perched on the top of a low alder. It appears to frequent these thickets, generally by the side of streams." Of its nest-building, Mr. Merriman gives the following account: "This western race of *E. traillii* was very common in the Salt Lake valley, where I collected seven specimens and three nests. They build a neat, compact little nest, which they place in the fork of a rose or other small bush, about five feet above the ground. It is composed of fibrous grasses, flax, wool, and other soft substances, interwoven with a few leaves of swamp-grass. It is a curious fact that this bird places all the wool and other soft, downy substances on the outside of its nest, lining it with the rough stalks of dry grass." Coues says: "The eggs of this species (*traillii*), to judge from numerous specimens before me, may be distinguished from those of *acadicus* in lacking much or all of the creamy tinge of the latter, and in the markings being, for the most part, large, bold, and blotched, rather than sharply dotted. The fact that the eggs are colored instead of colorless, at once distinguishes them from those of *E. minimus*, and is a point to be regarded in discussing the specific relationship of the two."

Pewit Flycatcher, or Phœbe-bird. (*Sayornis fuscus.*)

Fig. 5.

A faithful and familiar messenger of spring, that may be met with in most parts of the continent of North America, wintering in the Southern States, into Mexico. It is one of the earliest visitors, reaching Canada early in April. On their first arrival they frequent the woods, but their favorite resort is in the neighborhood of streams, ponds, or stagnant waters, about bridges, caves, and barns—their favorite breeding-places. Nuttall says: "Near such places our little hunter sits on the roof of some out-building, on a stake of the fence or on a projecting branch, calling out, at short intervals, and in a rapid manner, *phebe phebe;* and at times in a more plaintive tone, *phee-be-ee.* This quaint and querulous note, occasionally approaching to a warble, sometimes also sounds like *pewait pewait*, and then *pe-wai-ee*, also *phebe phe-bee-ee*, twice alternated, the latter phrase somewhat soft and twittering. In the spring, this not unpleasing guttural warble is kept up for hours together, until late in the morning, and though not loud, may be heard to a considerable distance." Audubon's beautiful description of the habits of this bird is one of his best efforts. We copy the following:

"The flight of the Pewee Flycatcher, is performed by a fluttering, light motion, frequently interrupted by sailings. It is slow when the bird is proceeding to some distance, rather rapid when in pursuit of prey. It often mounts perpendicularly from its perch after an insect, and returns to some dry twig, from which it can see around to a considerable distance. It then swallows the insect whole, unless it happens to be large. It will at times pursue an insect to a considerable distance, and seldom without success. It alights with great firmness, immediately erects itself in the manner of Hawks, glances all around, shakes its wings with a tremulous motion, and vibrates its tail upward as if by a spring. Its tufty crest is generally erected, and its whole appearance is neat, if not elegant. The Pewee has its particular stands, from which it seldom rambles far. The top of a fence-stake near the road is often selected by it, from which it sweeps off in all directions, returning at intervals, and thus remaining the greater part of the morning and evening. The corner of the roof of the barn suits it equally well, and if the weather requires it, it may be seen perched on the highest dead twig of a tall tree. During the heat of the day it reposes in the shade of the woods. In the autumn it will choose the stalk of the mullen for its stand, and sometimes the projecting angle of a rock jutting over a stream. It now and then alights on the ground for an instant, but this happens principally during winter, or while engaged during spring in collecting the materials of which its nest is composed, in our Southern States, where many spend their time at this season.

"The nest is rather large for the size of the bird. It is composed of roots, mosses, grasses, and hairs, and the whole put together against the object built on, by well-mixed mud, and is lined with soft grasses, wool, and feathers. The eggs, usually five in number, are white, and have a delicate cream tint. A few of the eggs have reddish-brown spots scattered over the larger end. The length of this species is six and a half inches, and its breadth is nine and a half inches."

The Mourning Turtle, or Carolina Dove. (*Zenædura carolinensis.*)

Fig. 6.

A beautiful and familiar bird, that is very abundant throughout the temperate parts of North America. Wilson says: "This is a favorite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer, but none so mournful as this. The hopeless coo of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender, and affecting. Its notes are four (*a'gh coo coo coo*); the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep, and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues, and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon and toward the evening. There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner or invites her by his call to some favorite, retired, and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of Doves are so celebrated; and, among them all, none more deservingly so than the species now before us.

"On their return to the North in March, and early in April, they disperse so generally over the country that there are rarely more than three or four seen together—most frequently only two. Here they commonly fly in pairs; resort constantly to the public roads to dust themselves, and procure gravel; and are often seen in the farmer's yard before the door, the stable, barn, and other outhouses, in search of food, seeming little inferior in familiarity at such times to the domestic Pigeon. They often mingle with the poultry while they are fed in the morning; visit the yard and adjoining road many times a day, and the pump, creek, horse-trough, and rills for water. Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by

which they can easily be distinguished from the wild Pigeon. They fly with great swiftness, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hemp-seed, and Indian corn, and feed on the berries of the holly, the dogwood, and poke, huckle-berries, partridge-berries, and the small acorns of the live and shrub oak.

"The flesh of this bird is considered much superior to that of the wild Pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocency attached to its character, are, with many, its security and protection; with others, however, the tenderness of its flesh, and the sport of shooting, overcome all other considerations. The nest is very rudely constructed, generally in an evergreen, among the thick foliage of the vine, in an orchard, on the horizontal branches of an apple-tree, and, in some cases, on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry, fibrous roots of plants; and in this almost flat bed are deposited two eggs of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two broods in the same season. This species is twelve inches long, and seventeen inches broad."

PLATE LI.

The White Pelican. (*Pelicanus trachyrhynchus.*)

This species is rarely ever met with in the Middle or New England States, although west of the Mississippi, and south to Central America, it is abundant. Its movements are slow, awkward, and compressed; but its flight is easy and firm, and their swimming is easy and gracefull. The male and female are colored alike. Regarding its habits, Audubon says:

"The White American Pelican never descends from on wing upon its prey, as is the habit of the Brown Pelican; and, although on many occasions it fishes in the manner above described, it varies its mode according to circumstances, such as a feeling of security, or the accidental meeting with shoals of fishes in such shallows as the birds can well compass. They never dive for their food, but only thrust their head into the water as far as the neck can reach, and withdraw it as soon as they have caught something or have missed it; for their head is seldom out of sight more than half a minute at a time. When they are upon rivers, they usually feed along the margin of the water, though, I believe, mostly in swimming depths, where they proceed with greater celerity than when on the sand. While thus swimming, you see their necks extended, with their upper mandible only above the water, the lower being laterally extended, and ready to receive whatever fish or other food may chance to come into the net-like apparatus attached to it.

"The White Pelican appears almost inactive during the greater part of the day, fishing only soon after sunrise, and again about an hour before sunset; though, at times, the whole flock will mount high in the air, and perform extended gyrations, in the manner of the Hooping Crane, Wood Ibis, and Vultures. These movements are probably performed for the purpose of assisting their digestion, and of airing themselves in the higher and cooler regions of the atmosphere. Whilst on the ground, they at times spread their wings to the breeze, or to the rays of the sun; but this act is much more rarely performed by them than by the Brown Pelicans. When walking, they seem exceedingly awkward, and like many cowardly individuals of our own species, are apt to snap at objects which they appear to know perfectly to be so far superior to them as to disdain taking notice of them."

The nest is built according to circumstances—sometimes on the ground, in bushes near the water, and on rocks. The eggs number one to three, bluish-white, with a thick, chalky crust. This species is five feet long, and eight and a half feet broad.

PLATE LII.

The Spoonbill, or Shoveller Duck. (*Spatula clypeata.*)

Fig. 1.

This species inhabits the temperate regions of North America, as well as Europe, Asia, and Australia, and only occasionally is it met with in the more northern latitudes. It is to be met with, in this country, throughout the continent, wintering from the middle districts southward to Guatemala, Mexico, Cuba, and Jamaica.

This bird is distinguished from others of its group by its very remarkable and large bill, slender at its base, very broad and vaulted toward its extremities, and finely denticulated at its margins. The remarkable beak possessed by this bird is admirably suited for the use to which it is destined, its laminated sides being furnished with numerous nerves, which endow it with a delicate sense of touch, enabling it at once to select such matters as are fitted for sustenance—insects, mollusks, worms, crustacea, small fish, and also grass and other vegetable matter, found on the muddy shores of lakes, marshes, and rivers, which are frequently visited by it, although it seems to prefer inland lakes or marshes to the more open seas and rivers. It possesses a powerful flight, and is a most expert diver and swimmer. "The Shoveller," says Audubon, "walks prettily, and I have often admired its movements in the puddles formed by heavy dashes of rain in our Southern corn-fields, where I have found it in company with the Wood Duck, Mallard, and Pintail. Its flight resembles that of the Blue-winged Teal, and in tenderness, as well as in flavor, its flesh rivals that of that beautiful bird as an article of food. No sportsman who is a judge will ever pass a Shoveller to shoot a Canvas-back. It is rarely ever found on salt water, and then only when compelled to resort thither. The nest, which is usually placed on a tuft of herbage, in places near water, that are difficult of access, is composed of fine grass, the eggs being carefully covered with down from the mother's breast. The eggs usually number eight, and are of a buffy-white, tinged with green. This bird is nineteen inches long, and thirty inches from tip to tip of wing.

The Mallard Duck—Wild Duck. (*Anas boschas.*)

Fig. 2.

This species is the original of our common domestic Duck. It is not only esteemed for the table, but is prized by the sportsman for the healthy field-exercise it affords him. It is common throughout the whole of North America, except New England, where it is very scarce, and, it may be said, is everywhere domesticated.

Parker Gilmore, in his interesting work, "Prairie and Forest," gives an extended account of this bird. We take the liberty to copy the following:

"In my protracted rambles about the world, I know no portion where the Mallard can not be found. I have always been passionately fond of wild-fowl shooting, and the bags that I have made in the United States and Canada of this noble bird, far exceeded those obtained elsewhere. As wild fowl are nearly all migratory by inclination, or are compelled to be so from the changes of the seasons, it is of great importance that you should visit the various haunts at the proper periods of the year. However, the rule is, for successfully carrying on war against the web-footed families, go North in summer and South in winter. In June, July, and August, the wild-rice fields of the numerous labyrinths of lakes of Minnesota and the Northwest territory perfectly swarm with wild fowl, while in December and January they will be found equally numerous on the large bayous and lagoons that surround the mouth of the Mississippi. Of course, in the intermediate portion of country between Minnesota and the Gulf of

Mexico, during the seasons of migration, splendid days' shooting can be obtained, but the stay of the birds is so short that it might not compensate for a special visit. Where thousands are to be seen to-day, not a dozen will be met to-morrow; but if you should happen, in the spring and autumn, to be in either of the States of Illinois, Iowa, or Indiana, when the frost and ice are breaking up, in spring, or when winter makes its first appearance, you may with safety calculate on having some of the finest sport. A year or two since, when in Illinois, in November, a sudden change took place in the weather, and, although the morning was ushered in mild and warm, by noon it was snowing, with a gale of wind blowing from the north. From experience I knew that such a day was not to be wasted over the fire. I got on my shooting-ground with a very large supply of ammunition, and in two or three hours I had to cease, as my stock was exhausted. My stand was in a field of Indian corn that had been gathered into shocks, from the back of one of which I took shelter from the blast, as well as concealment. Never shall I forget the scene. The ducks came in thousands, all flying before the wind, and if a dozen guns had been there, instead of one, abundant work would have been found for all. On another occasion, in the same locality, two friends of mine killed in two or three hours in the evening, and in an hour and a half the succeeding morning, eighty-four brace of Mallard Duck.

"In the spring of 1866, when in Iowa, the first day of thaw, I went for a stroll, scarcely expecting to find game; but when I got on the prairie land, I was perfectly astonished at the clouds of wild fowl arriving from the south, some of the ponds being so densely covered with Duck that the surface could scarcely be seen.

"If any of our readers intend to go in for work, and do not object to roughing it, I should most decidedly say that the wild-fowl shooting is good enough to justify a visit. But let him not be induced to keep in the vicinity of settlements. Rather let him and his attendants commence housekeeping on the margin of one of the northern Minnesota lakes, if in summer (remember one that produces an abundance of wild rice); but if the severe season should be selected, the southern lagoons of the Mississippi will afford him abundant sport. . . .

"As soon as we were at our stands, we divested ourselves of shot-pouches and powder-horns, hanging them on the bushes, that we might the easier use them when required; for, once the game commences to arrive, every moment is of value. Before we had been stationary many minutes, a few stragglers made their appearance—the advance-guard doubtless of the main body. Some old and experienced veterans, I should think, are generally chosen for this duty, as these forerunners are wary in the extreme, and seldom or never come within gunshot. However, we were not detained idle; a bunch of Mallard passed within range, and a salute welcomed their visit; another and another party rapidly followed in such quick succession that it was impossible to shoot at all. These birds, so far, had only flown past, and, as night approached, their numbers increased, and we being probably less conspicuous from decreasing light, the open water at our side was chosen for their resting-place. Down they would come on the water, almost imperiling our heads, with the rustling sound of the Eagle in the act of swooping upon his prey; while some of their companions, less certain of the security of this halting-place, would sweep round and round our *locale* before they finally selected it. As soon as the birds struck the water, they would commence bathing themselves, flapping their bodies with their wings, diving with short plunges, and cutting so many capers, that one might imagine them stark, staring mad. The fact, however, is, that all this apparent eccentricity is caused by the necessity the Ducks feel of cleaning themselves of the insects about their plumage, as well as the pleasure they experience in finding themselves again in a milder climate, with abundance of food around them, after enduring a hard journey from the stormy north, protracted possibly through a day and night. On arrival, therefore, they wash themselves, and arrange their dress, before commencing their meal—an example other travelers would do well to imitate. But, as the night advanced, some strangers are mixed with the throng. The dusky Duck, the Bald-pate, the Pintail, the Blue and Green-winged Teal, shoot past, like arrows from a bow—the latter making, with the rapid motion of their wings, a sound not unlike an ungreased wheel or hinge. When the travelers are satisfied with the neighborhood, they dash down upon the water, causing it to fly in spray for yards around, while the first arrivals welcome the new-comers with innumerable quacks. The report of a gun then will scarcely alarm them, and, if they should rise, in a moment they will resettle, doubtless feeling security from their numbers."

In their general habits, the wild Ducks closely resemble our tame species. The tame Ducks are, however, far behind their progenitors in watchfulness, energy, and vigor. They swim, dive, and fly much in the same manner, but decidedly better than tame Ducks. Their voice, likewise, is precisely similar. The loud, short "*quack*" of the female, and the duller "*quack*" of the male; the conversational "*weck, weck*," and the call-note, "*waek, waek;*" the alarm-cry, "*katsch*," or "*rab, rab;*" in short, all the sounds with which we are familiar in the tame Ducks, are exactly repeated by their wild relatives.

Soon after their arrival, the Wild Ducks begin to choose their mates, the selection of course involving many a battle between the rival males; but their partners do not need to be won by a prolonged courtship. Their habit of associating in large flocks is at once laid aside, and they attach themselves to their spouses with ardent devotion. The place selected for the nest is generally some quiet, retired, dry spot, under a bush, or concealed by herbage, and very generally near the water, but sometimes at a considerable distance from it. Occasionally—and indeed not unfrequently—they will take possession of some nest placed in a tree; such, for example, as that of a Crow. Their proper nest is constructed of the stems and leaves of various plants, loosely put together, so as to present internally a rounded cavity, which, at a subsequent period, is warmly lined with down and feathers.

The brood consists of from eight to sixteen eggs, of a somewhat elongated shape, hard, smooth-shelled, and of a grayish-white color; in fact, exactly similar to those of the domesticated Duck. The period of incubation—during which the female, who alone broods, sits with the greatest patience and self-devotion—extends over from twenty to twenty-eight days. The newly hatched young ones remain perhaps for a single day in the nest, and are then taken to the water. During the first few days of their lives, they endeavor to conceal themselves as much as possible among the reeds and water-plants; and it is only when their wings have to be tried that they venture to show themselves in open water. Meanwhile, the mother takes the greatest pains to conceal them from observation. In case of danger, she makes every endeavor to draw it upon herself, or, if the assailants are such as to make it at all practicable, she flies at them with the utmost fury, and uses every effort to drive them away. The young brood follow her with every demonstration of affection; they watch her slightest warning, listen to every sound she utters, and, when bidden, at once hide themselves among weeds, or sink down between the inequalities of the ground.

Pectoral Sandpiper—Meadow Snipe—Grass Snipe—Jack Snipe. (*Tringa maculata.*)

Fig. 3.

The Pectoral, compared with others of its kind, is usually but seldom seen, although in some localities it is occasionally tolerably numerous. At early spring, it generally quits its winter-quarters, and returns, under cover of the night, to its native haunts. It is usually found in pairs, and seeks its food on marshy ground, but

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at other times conceals itself among the neighboring long grass and rushes.

Coues says: "The Pectoral Sandpiper is well known to sportsmen and others, and is frequently sought after, as its somewhat game-like habits of lying to a dog and flushing correctly from the grass, like a true Snipe, render it an attractive object of pursuit; besides which, in the fall it becomes very fat, and it is then excellent eating. Unlike most Sandpipers, it does not flock, at least to any extent, being oftenest found scattered singly or in pairs. In the United States it is chiefly, if not wholly, a bird of passage; for, though some may winter along our southern border and others breed along the northern tier of States, such probabilities require to be confirmed. As may be gathered from the quotations (North, Central, and South America, West India, Greenland, and Europe), its winter range is very extensive, yet some individuals may be found in the Middle States as late as November. I found it in July along the forty-ninth parallel, where it probably breeds. It occurred sparingly about pools on Turtle Mountain, in company with the Least Sandpiper. It is a very abundant bird in summer, in Labrador, where it frequents low, muddy flats laid bare by the tide, and the salt-marshes adjoining. When they arise from the grass to alight again at a little distance, they fly in silence or with a single *tweet*, holding the wings deeply incurved; but when suddenly startled and much alarmed, they spring quickly, with loud, repeated cries, and make off in a zigzag, much like the common Snipe. Sometimes, gaining a considerable elevation, they circle for several minutes in silence overhead, flying with great velocity, perhaps to pitch down again nearly perpendicularly to the same spot they sprang from. The southward migration begins in August, and is usually completed by the following month."

Jackdaw—Boat-tailed Grackle—Great Crow Blackbird. (*Quiscalus major.*)

Fig. 4.

This bird may be termed a small species of Raven. It is distinguished by its short, strong, straight beak, which is but slightly curved. Its habitat is the South Atlantic and Gulf States, along the coast from the Carolinas to Texas, the West Indies, and Mexico. It is also found throughout most of the countries of Europe and in many parts of Asia. It occupies some certain places in great numbers, entirely avoiding other districts. Among the sea-islands, and neighboring marshes on the mainland, they assemble in great numbers, where they feed, at low water, on the oyster-beds. Bushes in the neighborhood of salt marshes are the situations it prefers for building purposes, but it will also make its nest upon high trees or even shrubs. It is extremely rude, being roughly formed of twigs or straw, and lined with hair, feathers, or hay. During these building operations the settlement is a constant scene of quarreling, one bird stealing from another with the greatest audacity and cunning, and taking possession, not only of the materials, but of the places selected by their neighbors as snug and desirable localities.

The disposition of this species is lively, and its habits extremely social. Indeed, it may be said to possess the gifts of the Crow, with but few of its disagreeable qualities. When upon the wing, the flight of the Jackdaw is not unlike that of a Pigeon, and its mode of rising, falling, or performing a variety of evolutions remarkably graceful and easy. Its voice is capable of considerable development, according to Audubon, resembling a loud, shrill whistle, often accompanied by a cry like *criek criek cree*, and, in the breeding season, changing almost to a warble. According to Nuttall, they are only heard to sing in the spring, and their concert, though inclining to sadness, is not altogether disagreeable.

Large quantities of insects, snails, and worms are devoured by these useful birds. They will seek their food in the streets, or follow in the wake of the ploughman as he turns up the clods and lays the concealed grubs bare to their hungry beaks. They hunt for mice, young birds, and eggs with great dexterity, and will also feed upon roots, leaves, corn, and fruit.

Crow Blackbird—Purple Grackle. (*Quiscalus purpureus.*)

Fig. 5.

The Purple Grackle is a very common bird, and is either occasionally or constantly to be met with in all parts of North America, north to Labrador, Hudson's Bay, and the Saskatchewan, throughout which range it breeds. It winters in the Southern States and the Antilles, within the tropics. They associate at times in great numbers. Wilson states that, on the 20th of January, a few miles from the banks of the Roanoke, in Virginia, he met with one of these prodigious armies of Blackbirds, which, as he approached, rose from the surrounding fields with a noise like thunder, and, descending on the stretch of road before him, covered it and the fences completely with black; rising again, after a few evolutions, they descended on the skirt of a leafless wood, so thick as to give the whole forest, for a considerable extent, the appearance of being shrouded in mourning, the numbers amounting probably to many hundreds of thousands. Their notes and screams resembled the distant sound of a mighty cataract, but strangely attuned into a musical cadence, which rose and fell with the fluctuation of the breeze.

"Their depredations," says Nuttall, "on the maize crop, or Indian corn, commences almost with the planting. The infant blades no sooner appear than they are hailed by the greedy Blackbird as the signal for a feast; and, without hesitation, they descend on the fields, and regale themselves with the sweet and sprouted seed, rejecting and scattering the blades, as an evidence of their mischief and audacity. Again, about the beginning of August, while the grain is in the milky state, their attacks are renewed with the most destructive effect, as they now assemble, as it were, in clouds, and pillage the fields to such a degree, that, in some low and sheltered situations, in the vicinity of rivers, where they delight to roam, one-fourth of the crop is devoured by these vexatious visitors. The gun, also, notwithstanding the havoc it produces, has little more effect than to chase them from one part of the field to the other. In the Southern States, in winter, they hover round the corncribs in swarms, and boldly peck the hard grain from the cob through the air openings of the magazine. In consequence of these reiterated depredations, they are detested by the farmer as a pest to his industry; though, on their arrival, their food for a long time consists wholly of those insects which are calculated to do the most essential injury to the crops. They, at this season, frequent swamps and meadows, and, familiarly following the furrows of the plow, sweep up all the grub-worms, and other noxious animals, as soon as they appear, even scratching up the loose soil, that nothing of this kind may escape them. Up to the time of harvest, I have uniformly, on dissection, found their food to consist of these larvæ, caterpillars, moths, and beetles, of which they devour such numbers, that but for this providential economy, the whole crop of grain, in many places, would probably be destroyed by the time it began to germinate."

"This familiar bird," Gentry says, "reaches the latitude of Philadelphia usually about the middle of March. As I write (March 21st), many small flocks may be seen in various directions, fluttering and chattering among the trees. Nest-building has been observed even as early as March 15th, but then only in sheltered situations—such as the south slopes of a hill. Here the nests are built chiefly in the branches of coniferous trees. Usually, but one brood is reared each season; but I have observed instances of a second brood, when the season has been unusually propitious. In such cases, the first batch of young appeared in April, the other in July. Though sometimes annoying to the agriculturist by its mischief in the cornfields, this bird has nevertheless some good

qualities recommending it to favor. It is obviously of great service in the destruction of insects. But it has one very bad trait, perhaps not generally known. Like the Crow, a not distant relative, it is fond of birds' eggs and tender nestlings, and it destroys a great many, particularly Robins. Coward-like, it lurks about the Robins' vicinity until the parents are away, when it pounces on the nest, seizes an egg or a young one, and hastily retreats. But wary and vigilant as it is, sometimes it is caught in the act, and forced to seek safety by rapid flight from the impetuous attacks of the owners."

Rusty Grackle, or Blackbird. (*Scolecophagus ferrugineus.*)

Fig. 6.

This bird ranges throughout the eastern provinces of North America; is found in Kansas, Nebraska, and Dakota, and extends its northwestern range to Alaska and throughout British America. It winters in the Southern States, coming north gradually, arriving in Northern New York in April, breeding in Canada and throughout the British Possessions in America, and in Maine and New Hampshire. It frequents low, marshy grounds, building its nest in the low alders and bushes indigenous to such places, and begins to lay about the first of June, raising yearly but one brood. The nest is constructed of twigs and leaves of grass, mixed with mud, woven into a fine circular structure, and lined with fine leaves. The eggs are bluish-white, sometimes resembling the bloom upon grasses, covered with fine blotches and spots of light brown, in size about 1.04 by .76 of an inch. This bird delights in the company of cattle, frequenting the barnyard as well as pastures for that purpose. It feeds upon aquatic insects, small snails, grasshoppers, and grubs of old plowed lands. The male assists in incubation, and when disturbed, with a warning croak seeks to divert the attention of the intruder. During the mating season it indulges in a low song, but its ordinary call is a sort of *cheek-che-week*, shared by male and female alike.

Cowpen-bird—Cow-bird—Cow-blackbird—Cowpen Bunting. (*Molothrus pecoris.*)

Fig. 7.

Among the advanced thinkers of the bird world, the Cowpen-bird occupies the most conspicuous place. The longest haired reformer can feel no greater indifference to the conjugal relations or less regard for his offspring than this bird. The courtship is of the briefest description. Surrounded by a bevy of demure maidens, the male mounts some fence or tree, and ruffling his feathers to the utmost, pours out *cluk-see-e*, not without considerable melody. As they build no nests, and farm out the rearing of their young, their family relations are anything but tender, and they are arrant polygamists. When the female is ready to lay, she becomes greatly disquieted, ceases her search for food, separates herself from her companions, and commences a careful reconnoiter. Anxiously and in utter silence, she flits from thicket to thicket, peering here and there until a nest, with the owner not at home, is found, when she disappears for a few moments. When her labor is performed, she emerges perfectly jubilant, ruffling and adjusting her plumage, and with many a merry chuckle rejoins her companions. From her peculiar manner of dropping her eggs, the true number has never been fully determined. It is supposed that but one is laid in the same nest by the same bird, but nests have been found with two, three, and more of the Cowpen's eggs in them. These eggs are rounded oval, about .85 by .67 of an inch, the ground color white, though sometimes so blotched over with fine dottings of purple as to be concealed. They are usually larger than those of the bird whose nest is used, and hatch from two to four days sooner. Among the birds thus imposed upon are the Towhee, Black and White Creeper, and Yellow Summer Bird. The latter bird has been known to build a new nest upon the old one when thus defiled, sometimes making a third story, and effectually destroying the foreign eggs in the apartments below. The Cowpen sometimes attempts to use the nest of the Cat-bird, but rarely with success. When the young are hatched, the foster parents never desert their charge, but work with unceasing activity to feed the large and hungry mouths constantly appealing to them. The range of the Cowpen is very extensive, being found in nearly every State and Territory of the Union. Its food consists of seed, worms, and insects. Its name is derived from the great fondness of the bird for domestic animals, frequenting barnyards, scratching the ordure collected there, and feeding upon the numerous animal parasites. They frequently rest upon the backs of cows and horses, and undoubtedly impart an agreeable sensation by the scratching of their claws.

Great Carolina Wren. (*Thryothorus ludovicianus.*)

Fig. 8.

The range of this bird is restricted to the Eastern United States, south of New England, extending west to Kansas and New Mexico. It is sufficiently hardy to winter in the Middle States, and is common around Washington throughout the year. It raises two broods every season. Its nest is built without much regard to situation; any odd nook, loose board, or knot-hole in an out-house, or clump of bushes being acceptable. The nest is composed of a mass of fibrous material, usually grass, as being more easily obtained, resembles a ball somewhat, and has a side entrance. In this habitation five or six eggs are deposited. They are white, thickly and evenly dotted with rufous spots, and measuring about .70 by .58. When the young are hatched, the parents evince the utmost anxiety and watchfulness until they are old enough to care for themselves, which is in three or four days. They are usually very shy, hiding with the greatest pertinacity, and yet, like their kind, very inquisitive of all intruders on their haunts, scolding and chattering at them in true billingsgate. Their song, however, is strong, clear, and very musical, consisting of a rapid succession of whistling notes, delivered with great energy and nerve, and can be heard at a great distance.

Northern House Wren—Wood Wren. (*Troglodytes aëdon.*)

Fig. 9.

There are several varieties of the species known as House Wrens. The figure on this plate represents the northerly bred bird. "One can scarcely pass a thicket," says Maynard, "throughout the entire extent of Florida, from Key West to the northern limits of the State, whether on the borders of the hummock or in the vast pine barrens, without exciting the ire of the irascible House Wrens. They will suddenly start up at the feet of the pedestrian, and, alighting on a log or bush, scold him angrily; but if the birds think they are in danger, will quickly disappear; then it requires rapid and thorough beating to make them rise. There are many thickets on the mainland which are so impenetrable that birds are perfectly safe from intruders; yet on the Keys they are particularly favored in this respect, for there the various species of cacti form an excellent cover for them. These plants are armed with many long pines, which present a formidable barrier against the invasion of man or any large animal. Thus, in Florida, we find this Wren keeping apart from mankind and his ways; but in New England, they usually pursue a different course. Here they associate with human beings, building their nests in boxes erected for them, and even if these tiny edifices are placed in close proximity to the busy thoroughfares, the birds may be seen perched on their roofs, singing their uncouth melodies. The House Wren

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will occasionally select a hole in a tree as a breeding place; even in the North I observed a pair several times about an old apple-tree, which stood in a remote place, and, being aware that they had a nest there, made repeated search for it; but, after vainly looking in every hole which I thought they could enter, gave up in despair. But on passing the place one day, I saw the female emerge from a very small orifice in a high limb, which was not larger around than my arm, and upon examining, found the nest concealed in it. The House Wrens breed in New England about the first week in June; in Florida, somewhat earlier. They are constant residents in the South, but migrants at the North, arriving in the spring about the first of May, and departing in early October.

PLATE LIII.

Black-backed Three-toed Woodpecker. (*Picoides arcticus.*)

Fig. 1.

The range of this bird is confined to the far North, touching the extreme arctic region, and extending as far south as Northern Massachusetts, New York, and Ohio. Its nest is made by boring into live trees, usually without regard to kind, pine, oak, or other timber being selected indiscriminately, and the borings made near the first limbs. They vary in depth from twenty to twenty-four inches, with an entrance barely large enough to admit the occupant, but broad and smooth at the bottom. The eggs are from four to six, rather rounded, and pure white. One brood only is raised in a season, and the young keep with their parents until the approach of autumn, when they separate and shift for themselves. They seem destitute of vocal accomplishments, their utterance being confined to a loud shrill call. Their flight is long and undulatory, and when on the wing they frequently give voice to their peculiar call. They pursue insects on the wing, indulge in berries and other small fruit, and in search of food move with great rapidity over the trunks and limbs of decaying trees.

Banded Three-toed Woodpecker. (*Picoides americanus.*)

Fig. 2.

This bird is very rare in the United States, and but little is known of its habits. It is confined almost entirely to the arctic circle, and is not migratory. It is found in the spruce and fir forests lying between Lake Superior and the Arctic seas, and is most common north of Great Slave Lake.

Hudson's Bay Chickadee—Hudsonian Chickadee—Hudsonian Titmouse. (*Parus hudsonicus.*)

Fig. 3.

This bird is confined to the northern and eastern portions of the United States, and is found in Northern New York, Vermont, New Hampshire, and Maine. Though in many things resembling the common Black Cap, it is far more retiring in its habits, usually confining its residence to lonely forests. Its song is far more distinct, the *tsche-dee-dee-dee* having almost the clear pronunciation of the human voice. The nest is usually built in the hollow of a tree or stump, two or three feet from the ground, is purse-shaped, and composed of furs finely matted throughout. The eggs are of a rounded oval shape. Though a shy bird, this Chickadee resents all intrusion upon its haunts, and displays the utmost courage and disregard of life in protection of its young. Dr. Brewer gives a charming description of his attempt to examine one of their nests containing young. This nest could only be reached by using the hatchet, and he tells us that "they flew at our faces, assailed our arms as we wielded the invading hatchet, and it was difficult not to do them unintentional injury without abandoning our purpose. Before we could examine the nest, they had entered and had to be removed again and again. As soon as we were satisfied that the nest of this heroic pair did not contain what we sought, we left them, and turned to look with equal admiration upon the indignant assembly of feathered remonstrants by which we were surrounded."

White-winged Crossbill. (*Loxia leucoptera.*)

Fig. 4.

This bird inhabits the northern parts of North America generally. It has been found as far south as Maryland. It is a resident throughout Eastern Maine, where it breeds in the winter. In the arctic regions it finds shelter in the dense forests of fir and spruce, and food in the seeds of their cones. Their diet is not confined to the floral world, however, canker worms and other animal food proving equally acceptable. The female possesses the faculty of song, and sings with equal sweetness with the male. The nest is composed of moss, spruce twigs, nearly circular, and is lined with coarse hairs and the shreds of bark. The eggs are pale blue, the large end covered with fine spots of black and light purple. They are very affectionate, Dr. Brewer recording the death of one from grief at the loss of its mate. They congregate in flocks, fly with an undulatory motion, and are fearless in the presence of man.

Brown Creeper. (*Certhia familiaris.*)

Fig. 5.

Though nowhere an abundant bird, the Brown Creeper is found in every State and Territory in the Union. Owing to its markings so closely resembling the bark of the trees which furnish its food, the study of its habits is attended with some difficulty. It is a fearless bird, paying little regard to the presence of man. Solitary in its habits, it yet is sometimes found associated with the Titmice and small Woodpeckers. Its food is confined entirely to the small insects which find shelter in the bark of trees. Up and down the most rugged oak or elm it works its way, picking a dainty bit here and there, but never using its bill as a hammer. It rarely proceeds in a straight line, but constantly turns to the right and left, sometimes entirely circling the hole, and when one tree has been thoroughly examined, instantly flies to another, and thus day in and day out spends its time. It builds its nest in decayed trees, sometimes using the holes deserted by the Woodpeckers, and without much regard to symmetry, gathers together a mass of rotted wood, lining it with feathers and the fur of small animals. The eggs are usually five in number, small for the size of the bird, nearly oval in shape, grayish-white, dotted with fine reddish-brown spots. Besides the constantly repeated *cree cree cre-ep*, to which they give utterance while searching for food, they possess a song somewhat resembling, though much harsher than that of the Wren.

American Magpie. (*Pica caudata.*)

Fig. 6.

This bird, which is nearly identical with the European species, is confined to Western and Northern North America. In the New World as in the Old, it is the same daring murderer and robber. Its food consists of carrion, smaller birds, eggs, and the young of Partridges, rats, frogs, mice, snails, worms, grubs, and caterpillars. It is possessed of a most omniverous appetite, and will alight upon the backs of horses and mules, and work further mischief to any galled places that may be found. So ravenous are they that they have been known to fairly snatch food from the hands

of man himself. The constant persecutions of late years, however, have taught them more wary ways. They are a social bird, associating in small flocks of six or eight. Easily caught and tamed, they learn to imitate the human voice, and acquire very cunning and mischievous habits. Their notes are infinite in variety—musical, gurgling, querulous, squeaking, chattering, as its mood may dictate. Their favorite feeding places are near running streams. The nest is elaborately constructed, requiring several days to complete. It is usually placed in a thicket, on the fork of a tree, from ten to fifteen feet from the ground, and is constructed by an ingenious interlacing of coarse sticks, followed by finer ones, cemented firmly together by fine well-worked clay. It is in the shape of a ball, from eighteen inches to three feet in circumference, arched over by a bower of twigs. Two entrances are made—one for the long tail, the other for the head—and the inside is lined with hair, feathers, and fine grasses. Five eggs are usually laid, the ground color grayish-white, sometimes tinged with yellow, and blotched over with purplish-brown blotches. The Magpie occupies a conspicuous place in zoological mythology. Ovid gives us an account of a very interesting family of young ladies who were changed into Magpies, and he further adds:

> "And still their tongues went on, though changed to birds,
> In endless clack, and vast desire of words."

The Greeks and the Romans dedicated the Magpie to Bacchus, as all men when drunk are garrulous. In the old German myths, witches transform themselves into this bird; while during the twelve days between Christmas and Epiphany, one of the three birds must be killed. In Norway, however, they are treated to a Christmas dinner. The English peasants augur good or evil from the number found together; thus, one for sorrow, two for mirth, three for a wedding, four for a death.

Lapland Longspur—Lapland Lark Bunting. (*Plectrophanes lapponicus.*)

Fig. 7.

This bird is an inhabitant of the polar regions, extending from ocean to ocean; in the winter migrating as far south as Pennsylvania, Kentucky, Illinois, and Kansas. It breeds abundantly in Alaska, along the coasts of the Arctic sea, and up and down the shores of Greenland, building its nest on small tussocks of grass in moist meadows. This nest is composed of grass thickly matted, and is warmly lined with feathers and hair. The eggs are seven in number, of a greenish-gray ground, thickly mottled with chocolate brown, pointed at the end. Its song, which is clear and very melodious, is uttered while on the wing, and has won for its possessor the name of Greenland Nightingale. Its food is grass seed, the seed of pine-cones, and juniper-berries. It associates with Shore Larks and the Painted Larkspurs, and does not desert its breeding resorts until driven from them by the heavy snows which usually come early in September.

PLATE LIV.

Trumpeter Swan. (*Cygnus buccinator.*)

Fig. 1.

The range of this magnificent bird is chiefly from the Mississippi valley, extending northward as far as the Pacific.

According to Dr. Newbury: "The Trumpeter Swan visits California, with its congeners, the Ducks and Geese, in their annual migrations; but, compared with the myriads of other water-birds which congregate at that season in the bays and rivers of the West, it is always rare. Before we left the Columbia, early in November, the Swans had begun to arrive from the North, and frequently, while at Fort Vancouver, their trumpeting drew our attention to the long converging lines of these magnificent birds, so large and so snowy white, as they came from their northern resting places, and, screaming their delight at the appearance of the broad expanse of water, perhaps their winter home, descended into the Columbia." It is found in Canada, at Hudson's Bay, and occasionally on the Atlantic coast. It breeds from Iowa and Dakota north. Audubon found them in great numbers in the waters of the Ohio, about the last of October. They remain in the waters near their breeding places until the ice forms, when they migrate south, wintering in the waters south of the Gulf. They fly principally at night, and take their names from the trumpet tones with which they call to each other. One can hardly imagine anything more startling than a succession of their loud, long, raucous calls dropping out of the depths of a starless night. Hearne says: "I have heard them, in serene evenings, after sunset, make a noise not very unlike that of a French horn, but entirely divested of every note that constituted melody, and have often been sorry that it did not forebode their death."

Their flight is powerful, protracted, and made with seeming ease, the neck stretched forward, the foot folded back, and the wings propelling with steady, sweeping strokes. Their food consists of a variety of aquatic vegetables, roots, leaves, water-insects, snails, small quadrupeds and reptiles.

Herring Gull. (*Larus argentatus.*)

Fig. 2.

The Herring Gull is common along the coasts from Cuba to Labrador, breeding from New England northward. It is also found in the interior, and occasionally on the coasts of the Pacific. Its northern range is along the shores of Labrador, where it spends its summers in great numbers, and breeds abundantly. It builds its nest without much regard to place, sometimes using the ground, at other times resorting to trees. The nests are large and bulky, composed of moss, lichens, and dry grasses, scraped together in a heap, with a small indenture made in the center, in which are laid three eggs. These eggs are variously colored, some bluish, greenish, or brownish-olive, and blotched over with a great variety of markings. They are by no means dainty in their diet, partaking of anything which comes within their reach—fish, vegetable, and animal refuse thrown up by the ocean, shell fish, or carrion, for which they contend with Turkey-buzzards and Fish-crows. They migrate south from September to October, and during the winter rarely indulge in their vocal powers, but when spring approaches, they make the air resound with their loud harsh cries.

Bonaparte's Gull. (*Larus philadelphia.*)

Fig. 3.

This is one of our most widely dispersed sea-birds, inhabiting the Atlantic coast from Labrador to the Gulf, and along the shores of our great inland lakes. Notwithstanding its great geographical range, but little is known regarding its habits, and it has not been definitely determined whether it breeds within the United States. They spend their winters on the shores of the Southern States, leaving for their northern breeding places some time in May, and returning early in September.

Coues says: "No one of our species is more widely dispersed than this. Go where we may in North America, the pretty bird may be seen at one or another season, if we are not too far from any considerable body of water. The Gull holds its own from the Labrador crags, against which the waves of an angered ocean ceaselessly beat, to the low, sandy shores of the Gulf, caressed by the soothing billows of a tropical sea. It follows the sinuosities of

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the two coasts with wonderful pertinacity, making excursions up every bay and estuary, and threads the course of all our three great rivers, while performing its remarkably extensive migrations. Considering in what high latitudes it breeds, it is astonishing how early toward the fall it again appears among us after its brief absence. The last birds have not all left the United States in May; some time in August the young come straggling back, though they are not numerous until the autumn has fairly set in."

Gray or Wilson's Phalarope. (*Phalaropus wilsonii.*)

Fig. 4.

This bird is one of the largest and most elegant of all the Phalaropes. It is a rare bird throughout the Eastern States, but is found in abundance in the Western, where it breeds in Iowa, Illinois, Minnesota, to the north and northwest as far as the fur countries, and is exceedingly plentiful in the Mississippi valley. Its nest is an exceedingly crude affair, usually laying their eggs in the grass, selecting the borders of small ponds and reedy pools. The eggs vary in ground color from a clay to a brownish drab, overlaid with many spots and blotches of a brownish drab. Dr. Elliott Coues, in his "Birds of the Northwest," gives the following anecdote regarding them. He says: "Three Phalaropes came in great concern and alighted on the water where a dead Avocet was floating, swimming back and forth, and almost caressing it with their bill. The Avocet's mate himself, who was not long in reaching the spot, showed no greater agitation than his little friends and neighbors the Phalaropes did; and though it was only birds 'of a low order of beings,' who thus exhibited sympathy and grief, who could look on such a scene unmoved?"

Least Tern. (*Sterna superciliaris.*)

Fig. 5.

Audubon calls this beautiful little bird the Humming-bird of the water-fowls, and indulges in a perfect ecstasy of enthusiasm in describing it. It is a common bird along the Atlantic coasts of the United States, on the larger inland waters, up the Pacific coast to California, and south into the Antilles and in Middle America generally. Their nests are various, sometimes masses of moss, cunningly interwoven, bits of sea-grass gathered in a pile, or if these are not convenient, laying their eggs on the bare shingle. The eggs are from one to three, colored so nearly like their surroundings as to be barely discernible, varying from a pale greenish-white to a dull drab, marked with small spots and splashes of brown. They are fearless in the defense of their young. Their common notes resemble those of the Barn Swallow, and like them they eat upon the wing, though they frequently devour small fish upon the beach.

PLATE LV.

Pinnated Grouse—Prairie Hen. (*Cupidonia cupido.*)

The Prairie Hen was once common throughout the Eastern States, particularly in localities destitute of much moisture and thinly covered with trees or shrubbery. A few are still found on Martha's Island, around New York, and in New Jersey and Pennsylvania. Like the Indian, they are from year to year crowded farther and still farther into the West, and if the wholesale destruction of the last few years is continued, will ultimately become very rare. They are at present found in great abundance all along the fertile prairies of the United States, almost to the foot hills of the Rocky Mountains, in Illinois, Iowa, Minnesota, Missouri, Kansas, Nebraska, and Texas. They delight in broad open champaigns, where they congregate in flocks of several hundred, and feed upon orthoptera, green herbage, and in the winter do serious damage in nipping the buds of fruit and other trees. If allowed to flourish, they would prove the most effectual check to the grasshopper ravages in our Western States. As soon as the winter is broken, usually in March or April, they commence pairing. Some favored locality is selected, where the males are accustomed to meet for the purpose of testing their respective superiority. With tails outspread and inclining forward to meet their expanded neck-feathers, and with wings distended and grating against the ground, they strut backward and forward with the utmost pomposity, nursing and increasing their wrath, and giving utterance to a series of loud, muffled boomings. This peculiar noise is accomplished through the inflation of two small orange-colored, bladder-like receptacles on each side of the neck. Drawing in the air until these bags become fully inflated, the bird lowers its head, and gives out, in distinct succession, a series of booming sounds resembling the beating of a muffled drum, and, on still clear mornings, capable of being heard more than a mile. When the females congregate in response to this call, a furious battle ensues among the male belligerents. Rising into the air after the manner of game-cocks, they strike at each other with the utmost fury, sometimes several joining in a miscellaneous scrimmage, until the weaker ones are forced to retire and the stronger utterly exhausted. After the pairing, a coarse nest, rudely constructed of leaves and grass, is formed, hid away in the open plain, or at the foot of some small bush. From eight to ten eggs are laid, varying in size, the largest about 1.80 by 1.25, of a very light green ground, sometimes unmarked, sometimes spotted with fine brown markings. The female incubates from eighteen to twenty days, and when the young are hatched, their entire care devolves upon the female. Ever on the alert, if her young charge is threatened, she gives a low cluck as a signal of danger, when the brood instantly take to their wings, flying a short distance, then dropping to the ground and remaining perfectly still, making it almost impossible to discover them. After the danger is over, a second signal relieves them. But one brood is raised during the season; though, if through any misfortunes the first laying is destroyed, the female seeks out her mate, builds another nest, lays a new complement of eggs, and tries her fortune a second time. Their flight is strong, regular, tolerably swift, and sometimes extended. They rise from the ground with a whirring sound, and if they discover a sportsman, go with the utmost speed, and then suddenly drop into the grass. They feed mostly at the beginning and close of day, using the mid-day for the purpose of a dust bath, when they lay and prune their feathers. The flesh is dark, having a gamy flavor, and, where not too common, is considered a great treat.

PLATE LVI.

Cedar Bird. (*Ampelis cedrorum.*)

Fig. 1.

This bird is common throughout all the wooded parts of North America, and breeds from Florida to the extreme North. They are eminently sociable and affectionate to each other, and are invariably found in flocks. They have no song, or one so indistinct as not to attract notice, but they possess a low, lisping utterance, which they constantly give voice to. Inordinate feeders, they have been known to gorge themselves until they became utterly helpless and an easy prey; and it is a curious sight to watch a flock of them stripping some mountain ash when in its fullest fruitage. They arrive in Northern New York long before the April snows

have disappeared, and with their tufted crowns, beautiful plumage, and supple movements, make a most attractive picture. From their great fondness for cherries, they have received the name of Cherry-bird, and have suffered much unjust persecution from the same cause, for they are entitled to a most generous repast in return for their services in keeping in check the myriad insect life. They are particularly fond of the destructive canker-worm which makes such havoc with apple and elm trees. Although arriving at their breeding places early, it is not until about the first of July that they commence building their nests. This curious anomaly in bird life has awakened the curiosity of all ornithologists. Their nests are large and bulky, composed of a variety of materials, twigs, coarse grass, and stems of vegetables, in which they lay five or six eggs, of a light slate color, tinged with olive, and marked with dark purple blotches, measuring about .85 by .70 of an inch.

Black-throated Bunting. (*Euspiza americana.*)

Fig. 2.

A rare bird throughout New England, but unusually abundant in the West, this little Bunting is usually found in open fields. It arrives in New York the last of May, and immediately commences to build its nest, which consists of coarse grasses and stems, lined with a finer and kindred material. It is sometimes built upon the ground, more frequently a little above, in low bushes like blackberry brambles and wild roses. In the West they frequently mat together the tops of coarse prairie grasses, and construct their nests upon it. They usually lay five eggs of a uniform light blue color, varying in size. During the summer they destroy immense numbers of caterpillars, beetles, canker-worms, and other destructive insects, varying their diet with the seeds of coarse grasses and weeds. They are always found in pairs, and even when preparing to migrate, keep up this isolated family relation. Their song is more constant than musical. The note is a *chip-chip-che-che-che*, which they keep repeating over and over until it becomes wearisome.

Tit-lark—American Pipit. (*Anthus ludovicianus.*)

Fig. 3.

The Tit-lark or American Pipit is one of the most abundant and widely distributed of North American birds. Its range extends from Florida to the arctic regions, from the Atlantic to the Pacific oceans. It builds its nest about the middle of May, seeking open, bare, and exposed situations, usually the sides of some steep and precipitous chasm. Here, in some natural cavity, it gathers dry mosses and with coarse grass makes a nest about six inches in diameter, loosely put together, with a cavity of about two inches in the center. The eggs are from four to six, dark chocolate in color, with small lines and streaks in black, measuring .75 by .62. The flight of this bird is easy and beautiful; while upon the ground it moves with great rapidity, jerking its tail like the Water-thrush. Its song is clear, mellow, and very sweet, more subdued when on the wing than when at rest. Its food is varied; in the interior consisting of insects and small seed, while on the banks of rivers or on the seashore they devour crustaceous and small shells, resorting at low tides to muddy flats, and in company with the small Sandpipers, finding abundance of food. During incubations both birds sit in the same nest close together, and abandon it only at the last moment of danger, and when driven from it they flutter only a few feet, uttering loud cries of lamentation, in which they are joined by their companions.

The Shore Lark. (*Eremophila alpestris.*)

Fig. 4.

The Shore Lark has a very extended range, and breeds from Texas to Labrador. Where circumstances are favorable, it remains the year round, even when the winters are of unusual severity. During the season of wooing, the male bird has the habit of rising almost perpendicularly in the air, wheeling up and up in irregular circles until nearly out of sight, singing at intervals a sweet and somewhat varied song, and then descending to the very spot from whence he arose. At this season the male bird is also very pugnacious, engaging in frequent battles, in which several will join at the same time, fluttering, biting, and tumbling over each other in a confused manner. It is most emphatically a ground bird, never alighting upon trees, and its song, which is alike short and sweet, is uttered when at rest and when on the wing. It usually selects some mossy bed in which to build its nest, which it hollows out and fills with fine grasses and a final lining of feathers. Its eggs are from four to five in number, grayish in color, covered with spots of purplish-lavender. Before they can fly, the young, which in no way resemble their parents, leave their nests, and nimbly follow them for the purpose of being fed. The parent birds are very solicitous for their offspring, and will follow a ravisher of their nest long distances, uttering the most plaintive cries. At the approach of danger they flutter away, feigning lameness, endeavoring to lead the intruder away from their young. Their food consists of insects, the seeds of grasses and the blossoms of small flowers, and, when near the shore, of crustacea.

Connecticut Warbler. (*Oporornis agilis.*)

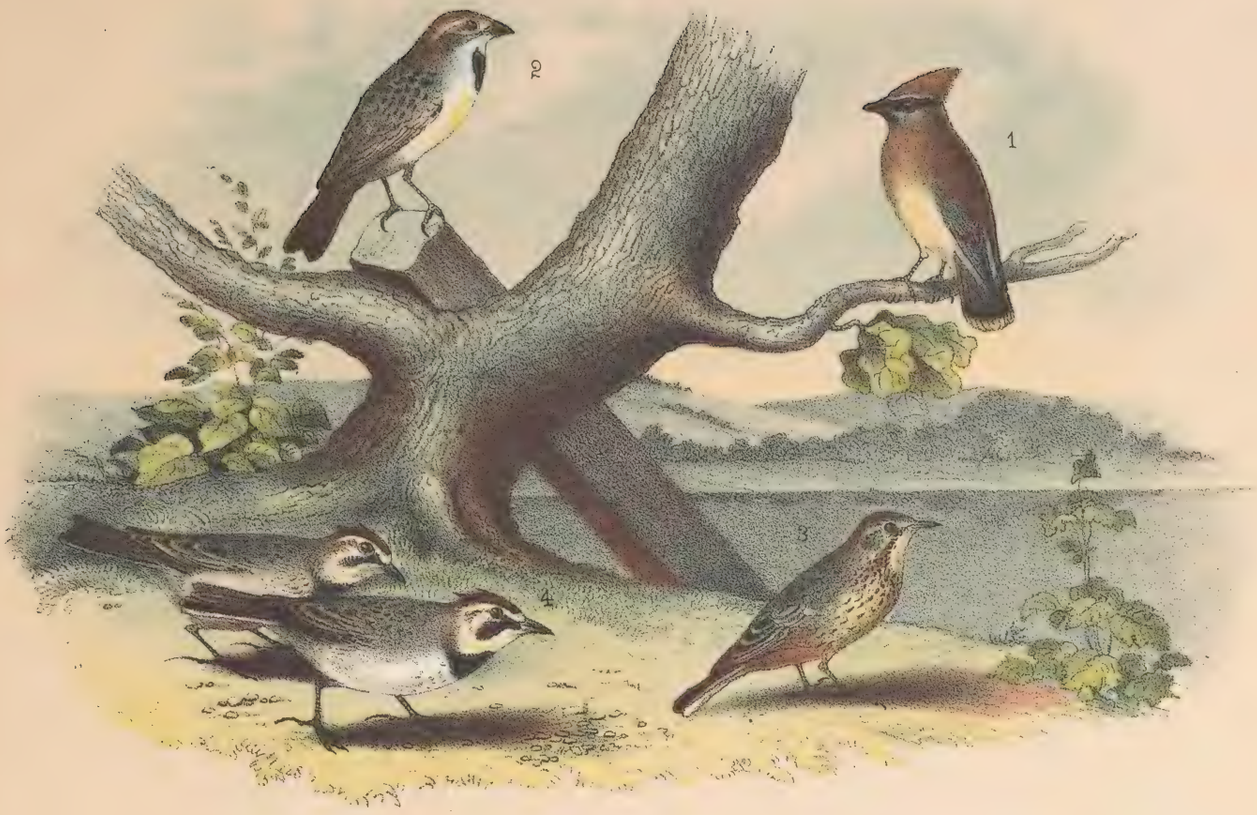
Fig. 5.

Wilson first discovered this rare and beautiful bird in the State from whence it derives its name, and during the many years which have intervened since his untimely death, but little additional information has been gained. Audubon found but two specimens, and these in New Jersey. Within a few years it has been discovered in Massachusetts, Pennsylvania, Ohio, and in Illinois. It is exceedingly active in its habits, constantly hopping from one low bush to another, and emitting, without ceasing, the single note—*tweet*. It is very fond of a small water-spider which it pursues, skimming the water after the manner of the Swallow. It also seeks its food in old fields, among dry, rank weeds, and in swampy places.

Fox-colored Sparrow. (*Passerella iliaca.*)

Fig. 6.

Throughout all the Northern and Western States, the Fox-colored Sparrow is only a bird of passage, and is not known to breed in any State in the Union. They winter in the vicinity of Washington and throughout the South. They begin their northern pilgrimage, which is performed entirely by day, some time in March, and return again to winter-quarters in October. They fly in small flocks of about a dozen, in a low but rapid, undulatory manner, and haunt the outskirts of low thickets and the edges of moist woods. They breed in the wooded districts of the fur countries, and during this season the plumage of the male bird becomes sometimes an almost brilliant red. At this time, the male also develops the most charming musical capabilities, his song becoming loud, clear, and melodious, unsurpassed by any of the family of Finches. The nest is constructed on the ground and in trees, and is composed of coarse hay, lined with similar material of a finer quality, mixed with mosses and the hair of deer. They are large for the size of the bird, and when on the ground are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usually placed at the foot of some creeping fir, and concealed from view. The eggs are five in number, of a pale green tint, blotched over with irregular spots of brown. When disturbed during incubation, they flutter away, imitating lameness. Their food consists of grain and insects, and they imitate our domestic fowl in eating, scraping the ground with their feet for the purpose of turning up some dainty morsel.

House Wren. (*Troglodytes aëdon.*)

Fig. 7.

This charming and familiar bird is common throughout the United States, though not abundant in the more northern parts of New England. It is not known to winter in any part of the Union, commencing its migratory movements early in September. It arrives in the Northern States during the earlier days of May, and immediately commences preparations for the rearing of a family. Bold, sociable, and confiding, it has abandoned its prehistoric abiding places, such as the holes of decaying trees, and taken to the habitations of man, using the eaves of houses, wood-sheds, even sitting-rooms when accessible. Audubon tells the story of a pair who thus shared his own parlor, entertaining him with song, and in this manner more than paying rent. They have been known to build in the sleeve of a coat hung against the wall, in clothes-line boxes, in old hats, and other equally unthought-of articles. If the cavity which they may select prove too large, they fill the space unused with sticks or other material convenient, contracting the entrance until just sufficient to admit their wee bodies. In the center of this mass a hemispherical nest is constructed, compact in its architecture, composed of fine material, and warmly lined with feathers and the fur of animals. The eggs number from seven to nine, are rounded oval in shape, .60 by .55 of an inch in size, with a white ground so thickly blotched with spots of reddish-brown and purple as to be almost obliterated. During incubation the song of the male Wren is constant, clear and loud, almost shrill, and uttered with the utmost animation and rapidity. Although so small, they are among the most pugnacious of our birds, and during courtship and marital life indulge in constant battles. Holding an undying enmity to the cat, they rarely let go an opportunity to attack this cold-blooded and treacherous enemy. In their battles with birds of different kin, they frequently come off victorious, notwithstanding their diminutive size. Their food is entirely insectivorous, and they are among the farmer's truest and most active friends.

Red-eyed Ground Robin—Chewink or Charee—Towhee Bunting. (*Pipilo erythrophthalmus.*)

Fig. 8.

The Towhee Bunting, Ground Robin, Chewink, or Charee, for by all these and other names is this bird known in different localities, has a range extending throughout the Atlantic States, and westward to the great plains. Although migratory, it breeds in every State where it is known. It arrives in Northern New York about the first of May, returning to its winter haunts some time in October. It is a solitary bird, usually seen only in pairs, though when preparing for their yearly migration they gather in small flocks. Its favorite haunt is some closely sheltered thicket, where its time is busily spent in turning over leaves, searching the earth for the insects and worms which constitute its food. Its note consists of a simple *towhee*, from whence its name, though during the days of courtship the male will mount some elevated position and give utterance to a short but very sweet and melodious song. Wilson has undertaken to transpose this song into words, and it is as follows: *t'sh'd-witee-te-te-te-te.* It commences house building early in May, seeking some natural depression in the ground for its purpose, building the edges of its nest even with the surrounding surface, and filling the cavity with coarse stems and dry leaves without much attention to a finer lining. Great pains is taken to conceal the nest by some overhanging tuft of grass, and when the bird is sitting it is very difficult to discover it. The eggs are usually five in number, of a pale flesh color, thickly marked with specks of rufous, and are .98 by .80 of an inch in size. They are very affectionate to their young, evincing much anxiety when approached, and fearlessly thrusting themselves between them and any danger.

"In the Middle Atlantic districts, as Maryland for instance," says Coues, "the Towhee is chiefly a migrant, appearing in great numbers the third or fourth week in April, and so continuing until the middle of May; while in the fall it is still more numerous during the month of October. With the coming of other seed-eaters from the north, early in October, the Towhee suddenly appears. As we walk along the weedy old 'snake' fences and thick hedges, or by the briery tracts marking the course of a tiny water-thread through a field, scores of the humble gray Sparrows flit before us; while ever and again the jaunty Towhee, smartly dressed in black, white, and chestnut, comes into view, flying low, with a saucy flirt of the tail, and dashes again into the covert as quickly as it emerged, crying '*towhee*' with startling distinctness. In the spring it is less conspicuous, and more likely to be found in low, tangled woods, amid laurel brakes and the like; on the ground, rustling and busily scratching the matting of last year's leaves that covers the earth, doubtless in search of insects. Its notes are then louder, and oftener heard. Some say that the males precede the females in migrating; this may average true, but I have constantly found the sexes together at both seasons. This is only a partially gregarious bird, large gatherings being seldom witnessed. In fact it seems to prefer the society of the smaller and plainer Sparrows, among which it shines without difficulty, doubtless patronizing them in the genteel way, customary with big folks, that is so exasperatingly oppressive to the recipients."

PLATE LVII.

Tropic Bird. (*Phaethon æthereus.*)

Fig. 1.

This bird barely comes within the range of the birds of North America, as they are only casual visitors of the Gulf coast. As implied in their name, they belong to the tropical zone. They possess immense powers of flight, and have been observed as far north as latitude 40 degrees. They live almost entirely on the wing, and are found many leagues out at sea, where they frequently pass the night sleeping on its bosom. Their food consists almost entirely of fish and other marine animals, which they drop upon from great heights. They also make easy prey of flying-fish as they dart from the water. They congregate in great numbers on rocky and deserted islands for the purpose of incubating, placing their nests on the ground or among low trees and bushes, and laying but two eggs. Waterton, while at sea, shot one, and offering a guinea for its recovery, tells us that "a Danish sailor who was standing on the forecastle, instantly plunged into the sea with all his clothes on and swam toward the bird. Our people ran aft to lower down the jolly-boat, but it was filled with lumber and had been well secured with lashings for the passage home. Our poor Dane was now far astern, and in our attempt to tack ship she missed stays and we were obliged to wear her. In the meantime we all expected that the Dane had gone down into Davy's locker; but at last we fortunately came up with him, and we found him buffeting the waves with the dead bird in his mouth."

Little White Egrot—Snowy Heron. (*Ardea candidissima.*)

Fig. 2.

This beautiful bird is found throughout the United States, from the Middle States southerly; casually in Massachusetts, in Kansas, Mexico, the West Indies, and Central and South America. It is a constant resident of Florida and Louisiana, where many remain during the breeding season. In their migrations they reach the Middle States early in May. At such times, they fly night and day and in utter silence. Their favorite roosting and breeding places are among the low bushes and trees which surround swamps and marshes. Eminently social, they band together in large communities numbering several hundred, several building their nests on the same tree. The nest is composed of dry sticks, is rather small, with a very shallow cavity, in which three eggs are placed, in color pale bluish-green and measuring 1.62 by 1.25, the male assisting in incubation. Their food consists of aquatic insects, snails, shrimps, small lizards, and young frogs. When in good condition their flesh is said to be excellent eating.

Hooded Merganser. (*Mergus cucullatus.*)

Fig. 3.

This bird is found throughout North America, and stray representatives have been observed in Europe. It breeds all along the great inland lakes and other bodies of fresh water, building its nest in the holes of tall dead trees, sometimes as high as forty feet from the ground. The number of eggs vary from eight to fourteen, are clear white in color, with shell so compact as to seem almost solid when struck together, and measuring about 2.30 by 1.80 in size. The care of incubating and raising the young devolves entirely upon the female, and in the discharge of the latter duty she evinces many resources. When suddenly surprised with any threatening danger she signals her flock by a guttural, chattering cry, when they immediately dive beneath the waves and swim to the shore, hiding in its aquatic herbage. When passing from one body of water to another she flies with the young in her mouth, taking them one by one. So wary is she, in her motherly care, that none but the most expert sportsman is enabled to outwit her. Their food consists of minnows, small tadpoles, and aquatic insects. When migrating, they fly at great height, usually in small flocks and without regard to order. Their vocabulary is confined to a sort of *boo*, *croo*, *crooh*, which the male uses in wooing, and the female in times of danger, usually repeating it several times in succession. The flesh has a fishy taste, the half-grown birds being more desirable for food.

Spotted Sandpiper. (*Tringoides macularius.*)

Fig. 4.

This is one of the most common and widely distributed of our birds, breeding nearly throughout North America, and wintering in the Southern States, Central and South America, Brazil, and the West Indies. It is a familiar bird, nesting in fields and orchards, usually near water, scratching a hollow in the earth, lining it with a few pieces of straw or moss, and laying four creamy or clay-colored eggs, which are adjusted with their small ends toward the middle of the nest. These eggs are about 1.40 by 1 inch in size, the male assisting in incubating. Their song is a rapid, somewhat shrill *weet*, *weet*, *weet*, varying into *peet*, *weet*, *weet*, *weet*, more frequently heard toward evening. The mother is very affectionate to her young, resorting to many dissimulations when they are threatened with danger. They arrive in Northern New York about the first of May, and immediately forming their marital connections, commence the work necessary to the raising a family. Their flight is rather low and swift, and when feeding they have a habit of balancing and wagging the tail whenever the young join or as soon as they are fledged.

Bay-winged Bunting—Grass Finch—Field Sparrow—Vesper-bird. (*Pooecetes gramineus.*)

Fig. 8—Plate XLVIII. (Omitted on page 69.)

This charming little songster is found abundant throughout most all parts of North America. Fields, hedges, thickets, grassy hillsides, and open valleys are its places of resort. It is a shy and timid bird, rarely ever approaching the habitations of man. According to Nuttall, these birds in winter flock together in great numbers in the Southern States, and mingling with the chipping birds and other species, they now line the roads, fences, and straggling bushes near the plantations in such numbers as, with their sober and brown livery, to resemble almost a shower of rustling and falling leaves, continually haunting the advancing steps of the traveler in hungry, active flocks, driven by the storms of winter into this temporary and irksome exile. But no sooner does the return of early spring arrive, than they flit entirely from the southern wilds, to disperse in pairs and seek out again their favorite natal regions of the North.

This species usually builds a nest on the ground in an open or clover field, sheltered by some grassy tuft. It is built of grass, fine stalks, and withered leaves; when lined, it is with horse-hair or grass. It lays from four to six eggs, of a grayish-white thickly spotted with a dull reddish-brown color. Coues says: "The female does not spring from her nest until almost trodden upon, when she flutters in silence languidly away, repeatedly falling as if hurt, and arising again in hopes of drawing attention from the nest to herself; at a little distance she finally disappears in the herbage."

"Have you heard the song of the Field Sparrow," asks John Burroughs, in his pleasing little volume entitled "Wake Robin." "If you have lived in a pastoral country, with broad upland pastures, you could hardly have missed him. Wilson, I believe, calls him the Grass Finch, and was evidently unacquainted with his powers of song. The two white lateral quills of his tail, and his habit of running and skulking a few yards in advance of you as you walk through the fields, are sufficient to identify him. Not in meadows or orchards, but in high, breezy pasture-grounds, will you look for him. His song is most noticeable after sundown, when other birds are silent, for which reason he has been aptly called the Vesper Sparrow. The farmer following his team from the field at dusk catches his sweetest strain. His song is not so brisk and varied as that of the Song Sparrow, being softer and milder, sweeter and more plaintive. Add the best parts of the lay of the latter to the sweet, vibrating chant of the Wood Sparrow, and you have the evening hymn of the Vesper-bird—the poet of the plain, unadorned pastures. Go to those broad, smooth, up-lying fields, where the cattle and sheep are grazing, and sit down on one of the warm, clean stones, and listen to this song. On every side, near and remote, from out the short grass which the herds are cropping, the strain rises. Two or three long, silver notes of rest and peace, ending in some subdued trills or quavers, constitute each separate song. Often you will catch only one or two of the bars, the breeze having blown the minor part away. Such unambitious, unconscious melody! It is one of the most characteristic sounds in nature. The grass, the stones, the stubble, the furrow, the quiet herds, and the warm twilight among the hills, are all subtilely expressed in this song; this is what they are at least capable of."

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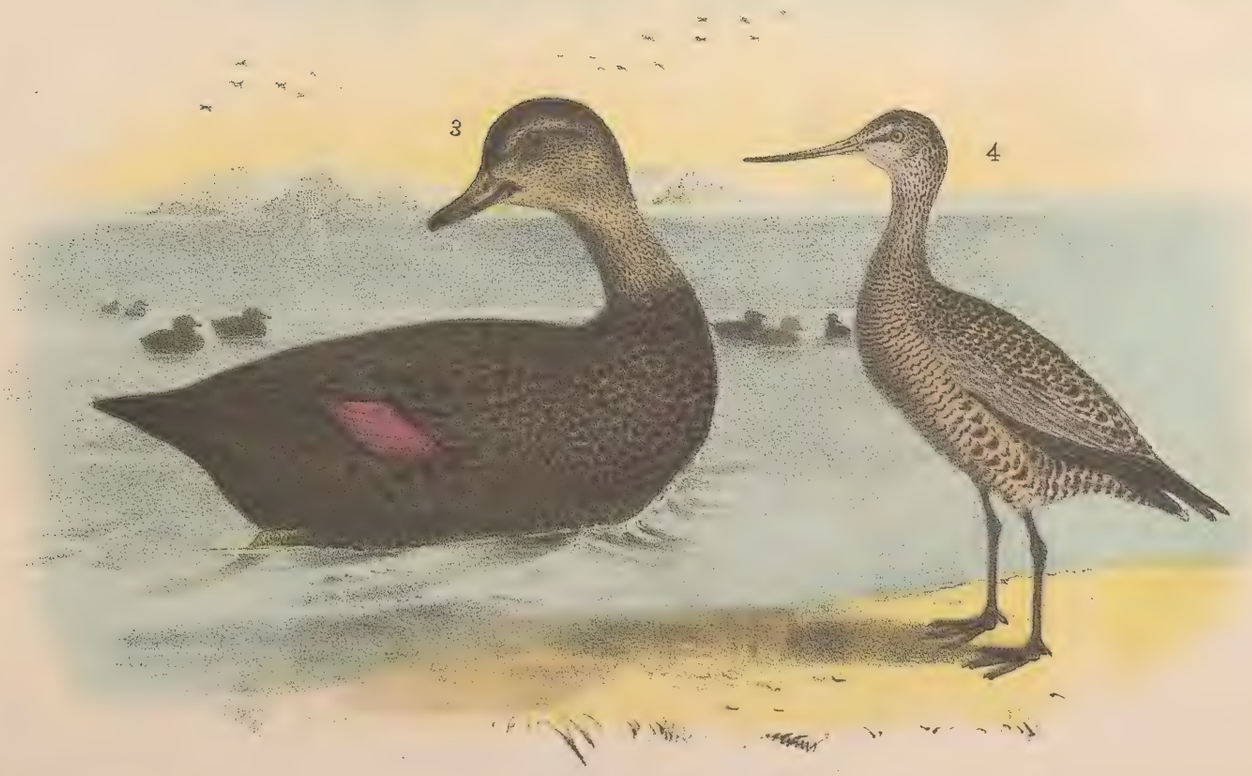
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PLATE LVIII.

Sharp-shinned Hawk—Pigeon Hawk. (*Nisus fuscus.*)

Fig. 1.

This beautiful little Hawk is one of the most common of the North American Falconidæ. Its geographical range covers the entire continent from Hudson's Bay to Mexico. It is one of the most destructive birds, living almost entirely on smaller birds, and extending its forays into the farm-yard. Its flight is peculiar—swift, spirited, and irregular, now soaring high into the air, then suddenly sweeping close to the ground. It seems to advance by sudden dashes, and when once its prey is discovered, will pounce upon it with a swiftness which makes escape impossible. It usually builds its nest in thickets of spruce or hemlock, using fine twigs and bits of scaly bark, and rarely lining them with any more pliable substance. These nests are shallow and broad, containing four or five eggs, ground color white with large blotches of sepia running into each other, and measuring about 1.35 by 1.15 inches. The same nest is used year after year, and if the female is robbed of her eggs she immediately replaces them. The male assists in incubating. Notwithstanding the great abundance of these birds the nests are but rarely met with; Audubon having found three, and Wilson and Nuttall none at all. Dr. Brewer describes several which were discovered by more recent ornithologists.

Broad-winged Hawk, or Buzzard. (*Buteo pennsylvanicus.*)

Fig. 2.

This Hawk, though nowhere very common, is distributed over eastern North America, from the Mississippi, north to the British Provinces and south as far as Florida. It is also found in Cuba and Central America. It arrives at the north about the first of May and returns to winter quarters early in October. It prefers wild and lonely districts, where, soaring above some somber forest of pine and hemlock, it will for hours hover, watching its prey, giving utterance to a shrill "key, ky-ah, ky-ah-ke-ee." Its food consists of small birds, reptiles, insects, and squirrels. Fierce in the defense of its nest, it has been known to attack man with intense rage, and not to surrender until life itself was extinct. Its nest is rarely found, and is composed of coarse sticks and twigs loosely wattled together, and lined with bits of bark and a few leaves and feathers. The eggs vary from three to five, and measure about 2.10 by 1.61 inches, slightly rounded oval, of a grayish or dirty white, covered with many blotches of various colored brown. Its flight is easy, gliding with closed wings in long circles, or propelling with short rapid strokes until great speed is attained. It usually flies singly, and when its appetite is appeased, will rest for hours upon the top of some favorite hemlock or spruce.

Dusky Duck—Black Duck. (*Anas obscura.*)

Fig. 3.

The Dusky Duck is one of the most abundant water-birds in eastern North America, where it breeds from Labrador to Texas. It is only partially migratory, spending its winters in the bays and small creeks of the New England coast. Its nest is usually built early in May, a meadow near a pond or stream being the favorite locality, and is composed of pieces of grass and weeds neatly arranged, nearly eighteen inches in diameter and four or five in depth, and lined with the parents' down and feathers. The eggs vary from seven to ten in number, are of a dirty yellowish-white in color, and average about 2.30 by 1.60 inches. This bird is familiar to all sea-shore shooters, and immense numbers are yearly offered in all the Eastern markets. They are very wary, and swim and fly with great velocity. Owing to this peculiarity, sportsmen resort to many stratagems in order to secure them; sometimes skulking along the sea-marshes where they are known to feed at night, and in the gloaming mowing them down. Another method is to build a bower near the water, and using tame ducks secured by a string for a decoy, entice the wild game within the reach of the gun, when allowing them to settle down upon the water, open the attack, and thus secure three or four shots before the birds are out of reach.

Hudsonian, or Black-tailed Godwit. (*Limosa hudsonica.*)

Fig. 4.

This Godwit is rather a rare bird throughout the United States. It is, however, more frequent along the Atlantic coast, though rarely found further south than New Jersey. It breeds in the far north, where it is more abundant. Its flesh is said to be excellent eating. But little is known regarding its habits of nidification. A set of four eggs, from the Anderson river, are in the Smithsonian Institution at Washington, which measure from 2.15 to 2.20 inches in length by about 1.40 in breadth. The ground of these eggs is a heavily shaded olive-drab, with shadings of the same in darker colors. This species strongly resembles the Back-tailed Godwit of Europe, but may be distinguished by its inner wing-coverts, which are black.

PLATE LIX.

Golden Eagle—Ring-tailed Eagle. (*Aquila canadensis.*)

Fig. 1.

The Golden Eagle is an inhabitant of all North America north of Mexico, of Europe, and of Asia. Its favorite haunts are in the extreme north, though it nidifies in Maine, New Hampshire, Vermont, and in the Adirondack regions of New York. The nests are used for many years in succession, and the older they grow, the more formidable appearance do they present. A projecting shelf of rock, jutting from some inaccessible cliff, and many feet from the earth, is selected; though, when nature fails to provide such a place, tall pines or other evergreens are made to do service. A platform, from six to eight feet, is first laid, upon which a quantity of dried sticks and twigs are placed lengthwise, the interstices filled in with smaller twigs, mosses, dry grass, and over the center an extra layer of the two latter materials is evenly spread. The female is usually the architect, the male bringing the material for her use. When first constructed, the nest is small; but every year a new layer, varying from six to eighteen inches, is added, and nests more than six feet in height have been discovered. The female lays from one to three eggs, varying in size from 2.65 by 2.15 to 3.50 by 2.50 inches. The ground color is whitish, variously spotted, speckled, and splashed with colorings that range from a rich red-brown to umber. The food consists of ducks, rabbits, mice, partridges, the fawn of deer, and other small animals. Though frequently captured, they have never been more than partially tamed, and resent with the utmost fierceness the least approach at familiarity. Cleanly in all their habits, after partaking of food they take especial pains to remove every stain of blood from their feathers. When in the act of feeding, they drop their wings, and grasping the food with the talons of either leg, tear it to pieces with their beak. The flight of the Golden Eagle is powerful, and is capable of long continuance. MacGillivray, in a poetic outburst in praise of the Golden Eagle, says that "in ten

minutes he has progressed three miles;" and adds, "over the moors he sweeps at the height of two or three hundred feet, bending his course to either side, his wings wide spread, his neck and feet retracted, now beating the air, and again sailing smoothly along. Now he ascends a little, wheels in short curves, presently rushes down headlong, assumes the horizontal position when close to the ground, prevents being dashed against it by expanding his wings and tail, and grasping a poor terrified Ptarmigan that sat cowering among the gray lichens, squeezes it to death, raises his head exultingly, emits a clear shrill cry, and, springing from the ground, pursues his journey."

PLATE LX.

American or Whistling Swan. (*Cygnus americanus.*)

Fig. 1.

The American Swan is unknown in the United States in its incubating season, but during the winter months it is plentiful along the Pacific coast, and it also winters in limited numbers in Chesapeake Bay. They breed within the Arctic Circle, choosing some marsh, where, in a tussock of grass, sometimes completely surrounded by water, they lay two eggs. These eggs have a roughened surface, in color of a dull, dirty white, with more or less of brownish markings, measuring about 4.50 by 2.75 inches. Some time in July they moult, and as at such times they are unable to fly, the natives find little trouble in capturing them. The flesh, when in proper condition, is said to be tender, well-flavored, and excellent. They commence their southern migrations in October, when the weather is propitious, and mounting high into the air in the shape of a prolonged V, and with loud screams, launch out for a more genial clime. It is claimed that in these journeys a distance of more than one hundred miles per hour is frequently attained. Their food consists of duck-grass, worms, insects, and shell-fish, and while feeding, one is always delegated to act the part of sentinel. They are very shy birds, and have some means of signaling which as yet remains undiscovered. When dressing their feathers they are extremely noisy, and at night their wild cries may be heard several miles. According to Dr. Sharpless, quoted in Audubon, "their notes are extremely varied, some closely resembling the deepest bass of the common tin-horn, while others run through every modulation of false note of the French-horn or clarionet."

Mr. A. Strauch, superintendent of Spring Grove Cemetery, in Cincinnati, writes us as follows: "There are now six fine specimens of the American Whistling Swan, on the lakes at the cemetery. They were captured about three years ago on the Potomac river. Some of these birds have a yellow patch on the base of the bill anterior to the eye, while others again have lost this mark during the last year. On young birds, this spot is reddish. Although very suitable localities are afforded these birds, they have not as yet shown any sign of breeding, while the Trumpeter Swans have been breeding in the same vicinity the past twelve years, and about fifty have been reared and distributed through the United States."

Marsh Tern. (*Sterna aranea.*)

Fig. 2.

The Marsh Tern is a rare visitor along the Atlantic coasts of New York and New England. According to Audubon, it is pretty abundant about the salt-marshes of the mouths of the Mississippi in the beginning of April, which it reaches by following the Gulf shores from Texas and from still further south. Its journeys are performed over the waters of the sea, a few hundred yards from shore, coming inland for food. The cry of these birds is rough and sharp, often repeated from their desire of keeping in close company, and so loud as to be heard at great distances. Their food consists largely of insects, a black water-spider proving a great dainty with them. In incubating, no nest is made, the female depositing three eggs in the dried rushes found in the salt marshes, and far enough inland to be beyond the reach of the tide. The eggs are of a greenish color, marked with irregular splashes of very dark umber, and measuring about 1.75 by 1.12 inches. The parents are longer incubating than birds hatched upon the sand, and the young, until the following winter, have different markings from the parent birds. Audubon tells us that "when an accident happens to the female during the breeding season, her mate manifests a most affectionate concern; but the female in such a case acts differently. On shooting several males on various occasions, whether they were killed outright, or fell wounded on the earth or the water, I observed that the female would only take a round as she rose above the reach of shot, and move off at once to some considerable distance; but when the female dropped, if on the water, the male would plunge headlong toward her, and alighting by her side, would do all in his power to aid her in swimming or flying off. If she fell on the ground, he would alight there, and exhibit the same marks of anxious care, thus affording to the gunner the best opportunity of destroying him."

Ross' Gull—Wedged-tailed Gull. (*Rhodostethia rosea.*)

Fig. 3.

Almost absolutely nothing is known regarding this bird. There is no record of its appearance in the United States, and up to 1865 but five specimens were known. It is confined to the polar world, and has been observed in zones of water beyond 82° latitude. One or two have been seen in England. MacGillivray first mentioned the bird in 1826, and later, Dr. Richardson, in the Fauna Boreali-Americana, says that "two specimens of this Gull were killed on the coast of Melville Peninsula, on Sir Edward Parry's second voyage, one of which is preserved in the Museum of the University of Edinburgh. Commander Ross, in his Zoological Appendix to Sir Edward Parry's narrative of his most adventurous boat voyage toward the Pole, relates that several were seen during the journey over the ice north of Spitzbergen, and that Lieutenant Forster also found the species in Waygait Straits, which is probably one of its breeding places."

Buffalo-headed Duck—Buffle-head—Butter-ball—Dipper—Spirit Duck. (*Bucephala albeola.*)

Fig. 4.

Until recently this Duck was supposed not to breed within the United States, but Dr. Coues states that he has reason to believe that it nests in Northern Dakota. In the spring and autumn it is a very common bird all along our coasts, where it associates with other Ducks. It is an expert diver, and is so wary that only the most expert gunner is enabled to bag it. When feeding, one always remains as sentinel, while the others dive in search of food. In case of an alarm the sentinel gives a sharp quack, when all rise to the surface, and learning the cause of the warning, immediately dive again, and, under water, swim off to a distance of several hundred feet. It flies with great velocity, and when on the wing gives utterance to a quick succession of guttural "quacks! quack! quack!" It builds a feathery nest some distance from the ground, selecting a dead tree for the purpose, and lays from five to eight eggs. The eggs are without markings, in color a compromise between a creamy white and a grayish-olive, and measure about 2 by 1.50 inches. Its food consists principally of fish, which gives a

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peculiar and, to a dainty palate, not pleasant flavor to the flesh. From the circumstance of its fat, plump, little body, it is sometimes called Butter-box as well as Butter-ball.

PLATE LXI.

White-fronted Goose—Speckle-belly. (*Anser albifrons.*)

Fig. 1.

The White-fronted Goose is generally distributed over the United States, even reaching as far south as New Orleans. None, however, are known to breed within her borders. Their favorite wintering place is along the California coast, where they may be found in immense numbers. They leave for their northern breeding places as soon as snow disappears in the spring. According to Richardson, these breeding places are in the woody districts north of the 67th parallel, and from thence to the Arctic ocean. Beyond a slight depression in the sand they make no nests, and lay from six to ten eggs. The eggs are about 3.30 by 2.10 inches, dull yellowish in color, with a shade of green, and marked with darker tints. The flesh is much sought after for the table. Dr. Coues states that they have learned to distrust the approach of horses, but have no fears of horned cattle, and that hunters take advantage of this fact, hiding themselves behind a bullock which they drive within gunshot, when they shoot them in immense numbers.

Short-billed Marsh Wren. (*Cistothorus stellaris.*)

Fig. 2.

This bright little bird inhabits the eastern province of the United States, Massachusetts being its northern range, and extending west as far as the Platte. It winters in the Southern States and Mexico. It reaches its northern limit early in May, and immediately after pairing, commences to build its nest, which is constructed of grasses and sedges, pensile, being suspended in the tops of grassy tufts in marshy meadows. With great ingenuity these materials are woven into a spherical form, with a small entrance on one side just under the greatest bulge of the nest. A thin lining of the soft fibers of silk-weed is added. The eggs are from six to eight, pure white, the shells proving extremely thin and fragile, and measuring .57 by .44 inches. This bird rarely visits cultivated ground, passing its life in marshy meadows. Its presence is heralded by a lively and constantly repeated song, resembling "tsh, tship a day, day, day, day," accompanied by alternate depressions and elevations of the head and tail, and giving to the little musician a comical appearance. Its food is almost wholly confined to coleopterous insects. Mr. Samuels says that a peculiarity of this bird is its habit of building a number of nests in the same season, it is believed for the purpose of securing protection, as when a person searches for the nest, the male always seeks to decoy the intruder to the neighborhood of one of these empty ones.

Cayenne Tern—Royal Tern. (*Sterna regia.*)

Fig. 3.

This bird is found upon the southern portions of the Atlantic coast, reaching its northern limit on Long Island. It is found in the Gulf of Mexico, on the Pacific coast as far north as California, and in South America on the coasts of Brazil and Peru. This species is very shy, and when captured, very pugnacious. They are frequently found several miles out at sea, but prefer low, shallow shores, where they find abundant food in crabs and kindred marine animals. Their flight is strong and capable of long continuance, and when at a great height they will plunge toward the water with speed almost incredible, and capture their prey. Their notes are very harsh, resembling, according to Audubon, the syllables "kwe-reek," which they repeat several times in succession, and so loud as to be heard at the distance of half a mile or more. They seem to make no nest, dropping two eggs on the bare sand. These eggs measure about 2.75 by 1.81, are rather sharp at the smaller end, of a pale yellowish ground color, spotted with dark umber and faint purplish marks. The young are easily distinguished from the old in having a yellow, instead of a bright red bill, and spotted plumage.

Red Phalarope. (*Phalaropus fulicarius.*)

Fig. 4.

This bird is generally distributed over the northern part of the Northern Hemisphere, seeking very high latitudes for the purpose of breeding, and migrating to the tropics during the winter. Its range is more particularly confined to the coasts, though Audubon shot his first specimens in Kentucky. It is also an inhabitant of the north and east of Europe, being found in great abundance in Siberia, upon the banks of the lakes and rivers of these regions, and on the borders of the Caspian Sea. Their flight is very rapid, closely resembling the Sandpiper's. They rarely dive, but swim with great rapidity. The nest consists of a hole or slight depression in the ground, which they line with withered vegetation, and in which from three to four eggs are laid. These eggs vary so in color and markings that it is difficult to describe them. The ground colors are sometimes dark greenish-olive, at other times light grayish-drab, with very bold and heavy markings of dark chocolate or light brown. In size they measure about 1.10 by .82 inches. The flesh, according to Audubon, proves capital eating.

American Avocet. (*Recurvirostra americana.*)

Fig. 5.

This bird inhabits the United States and British Provinces, breeding throughout these regions. It is rare in New England, and winters on our southern borders, touching Guatemala. It is most abundant along the Mississippi valley, and from thence westward to the Rocky Mountains. Their favorite location is a shallow, reedy pond, through which they like to wander, up to the belly in the water, with a graceful, deliberate step, and a constant swaying of the head and neck. When they are disturbed, they rise from the water, stretch back their long legs as a counterpoise to their equally long neck, and uttering a peculiar "click, click, click," flip leisurely to a little distance, and again alight, holding their long wings for an instant almost upright, and then deliberately folding them into proper place. Their nests are built in thick tufts of grass, composed of the same material in a dried state, and lined with softer fibers of the same. The eggs are usually four in number, the ground color ranging from a dark olive to a brownish-drab, evenly marked with spots of chocolate brown, and measuring about 2.00 by 1.37 inches. Its food consists of marine worms, snails, and the various insects that abound among soft muddy bottoms.

PLATE LXII.

American Widgeon—Baldpate. (*Marcca amcricana.*)

Fig. 1.

This bird is an inhabitant of North America, breeding in various parts of the United States, and passing its winters in Cuba and the contiguous territories southwest. It breeds in great abundance in Dakotah and Montana. From the great delicacy of its flesh, ranking next in flavor to the Canvas-back, it is much sought after by sportsmen. In the Chesapeake and Potomac it is a constant companion of the Canvas-back, depending largely on the latter for its supply of food. Possessing superior powers of diving, the Widgeon watches this duck until it brings to the surface the tender roots of the water-celery, when it instantly filches the dainty morsel and appropriates it to its own use. During the daytime they rarely feed, remaining listlessly on the sand flats or screened by the herbage of the marshes; but when night approaches they may be heard in large numbers repairing to their favorite feeding-grounds. Their flight is swift, well sustained, and generally in small flocks. Their nests are placed upon the ground, in which from eight to twelve eggs are laid, in color of a dull, pale buff, and measuring 2.00 by 1.50 inches. Wilson says they have a peculiar whistle resembling "whew, whew," while Audubon's ear could only detect the word "sweet," enunciated as if produced by a flute or hautboy.

Green-winged Teal. (*Querquedula carolinensis.*)

Fig. 2.

This bird inhabits the whole of North America, extending its northern range as far as Greenland, wintering in Cuba, Mexico, and as far south as Honduras. It is a fresh-water bird, though it is sometimes met with in marine bays and lagoons. Its food consists of the seeds of grasses, small acorns, berries, aquatic insects, and small snails. Audubon says that its flesh is delicious, the best of any of its tribe, and after having fed a few weeks on the wild oats of Green Bay or the soaked rice in the fields of Georgia and the Carolinas, is much superior to the Canvas-back in tenderness, juiciness, and flavor. On the wing they are alike the most graceful, and with the exception of the Mergansers, the swiftest of any of the tribe. They spend most of their time, after their hunger is appeased, on sandbars or clean parts of the shore, where they dress their feathers and bask in the warm sun. Their nests are composed of a bed of grasses and mud mixed together, and lined with their own feathers. The eggs are from five to seven in number, of a uniform creamy buff color, measuring about 2.00 by 1.50 inches. It is difficult to conceive why the popular name of "Green-winged" should be given to this bird, as its wings have but little green upon them.

American Snipe—Wilson's Snipe. (*Gallinago wilsoni.*)

Fig. 3.

This favorite game-bird is very widely distributed over North America, ranging to the south as far as South America, inhabiting the West Indies, and breeding from the Middle and New England States northward. Many winter in the Carolinas, resorting to the rice-fields in large flocks. They commence to migrate early in March, stopping to gather the dainty tidbits with which the oozy marshes of Delaware and New Jersey abound, and in April spreading themselves throughout the interior of the upland countries for the purpose of breeding. Dr. Lewis, in his entertaining "American Sportsman," tells us that "if the sportsman should, at early dawn, or even at mid-day, during the season of incubation, visit the low meadows frequented by these birds, he will probably see one or both of a pair mounting high in the air in a spiral manner, beating their wings, or sailing around in rapid circles until they have gained a hundred yards or more in height; then clasping each other, they whirl around, flapping their wings with great velocity, and then dropping in mid-air, give utterance to a low twittering or rather rolling sound, supposed to be produced by the action of the wings upon the air in their rapid descent." In its more northern breeding places, the Snipe does not begin to lay its eggs until July, selecting the swampy part of some extensive morass, where it hollows a place in the moss, and lays four eggs, placing the small ends together. These eggs are moderately pyriform, the ground color of a grayish-olive, with numerous markings of umber-brown, and measuring about 1.60 by 1.12 inches. Like the Woodcock, it probes the soft earth with its bill, searching for worms and animalcules, varying its diet with water-insects, leeches, and grasshoppers. Being a voracious feeder, it is obliged to constantly shift its ground, and where food is abundant, becomes an easy prey to the sportsman. They are very fickle in all their movements, and where numerous to-day, may not be found at all on the morrow. When approached, the Snipe hugs closely to the ground, but, emitting a strong scent, is winded at a great distance by a good dog. When sprung, it takes wing very hastily, and flying in rapid, zigzag lines, is the despair of inexperienced shots.

Long-billed, or Louisiana Water Thrush. (*Seiurus ludovicianus.*)

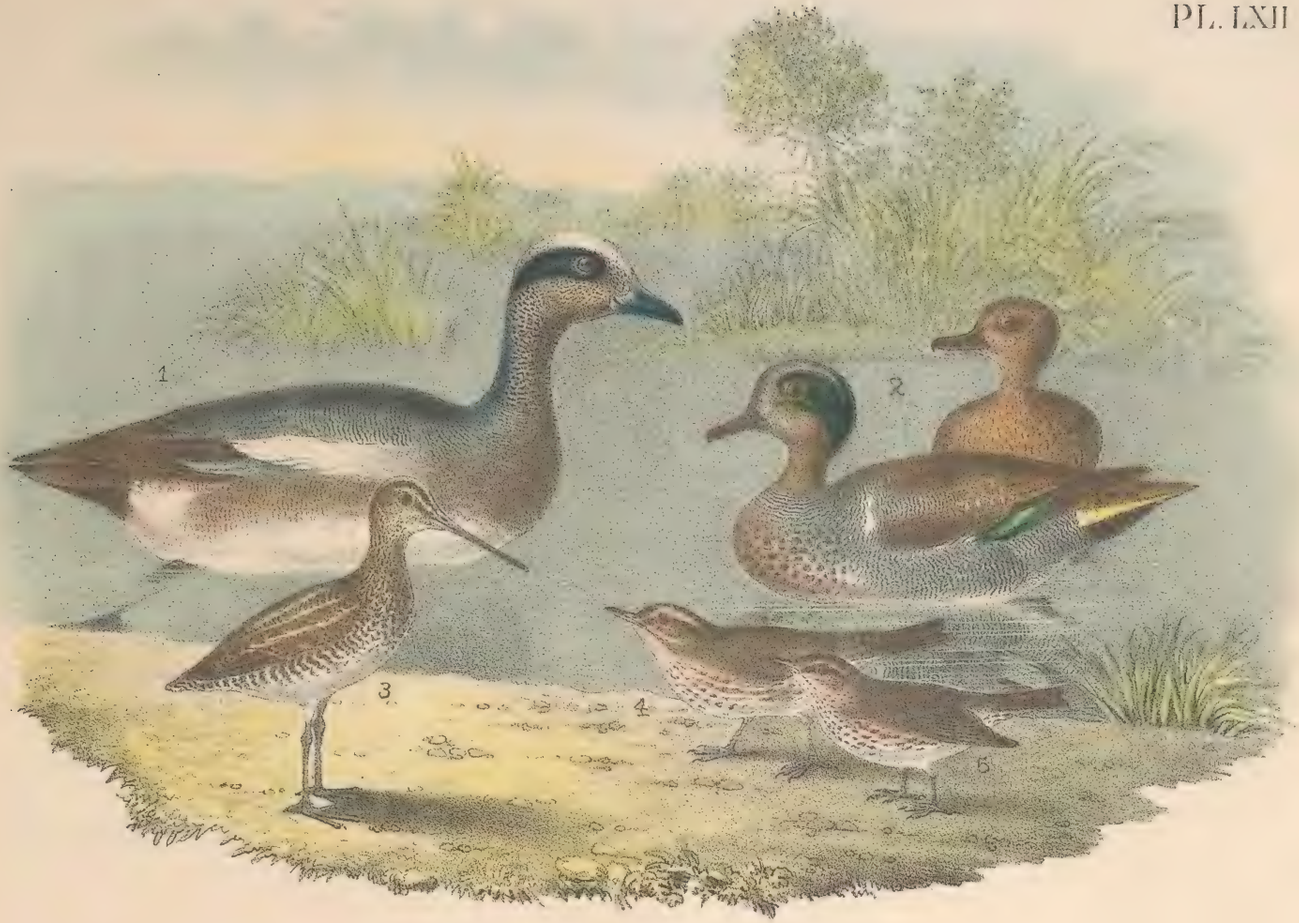
Fig. 4.

This bird is mostly confined to Eastern United States, though it has been found as far west as Kansas. It rarely reaches farther north than Massachusetts, spending its winters in the Southern States, Cuba, Jamaica, and Guatemala. Audubon is profuse in praise of its powers of song. He says: "As much and justly as the song of the Nightingale is admired, I am inclined, after having often listened to it, to pronounce it in no degree superior to that of the Louisiana Water Thrush;" and he adds, that "the bird may be observed, perched on a low bough scarcely higher than the top of the canes, in an erect attitude, swelling his throat, and repeating several times in succession, sounds so approaching the whole ten octaves of a good piano-forte, as almost to induce the hearer to imagine that the keys of that instrument are used on the occasion. The bird begins on the upper key, and progressively passes from one to another, until it reaches the low note, this last frequently being lost when there is the least agitation in the air." The flight of this Water Thrush is very graceful and easy, and when it walks, its tail is constantly on the move. It builds its nest at the roots of trees, or on the side of decayed logs, forming it of dry leaves, and lining it with fine grass and hair. From four to five eggs are laid, of a rosy blush in color, speckled all over, and measuring about .69 by .59.

Short-billed Water Thrush. (*Seiurus noveboracensis.*)

Fig. 5.

This bird is an inhabitant of Eastern North America, occasionally found as far west as Montana and Washington Territory. Its favorite haunts are near some brook, pond, or river, where it spends its time wading in the shallows in search of the aquatic insects on which it feeds. It is very shy and darts out of sight at the most careful approach. When tired of feeding, it will perch on some favorite branch overhanging the water, and pour forth a song at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once sweet, expressive, and charming. This song always commences with loud, clear, and vivacious notes, falling in almost imperceptible gradations until they are scarcely articulated. Its nest, like that of the Long-billed Water Thrush, is built in the side of a decayed log, or at the foot of some tree, and is composed of dry leaves, moss, fine grasses, and lined with hair. The eggs are usually five in number, of a delicate flesh color, spotted with light reddish-brown, and measuring about .81 by .63.

Roseate Tern. (*Sterna dougalli.*)

Fig. 6.

The Roseate Tern is found all along the Atlantic, from Massachusetts to Florida, though none are known to winter within the United States. It is also found in Europe, where it inhabits the sandy shores of Norway. From their light and graceful movements, Audubon called them the Humming Birds of the Sea. This bird is at all times restless and noisy, and when its breeding place is approached, emits many sharp, shrill cries, resembling the syllable "crak!" Its food consists of insects, small fish, moluscous animals, and shrimps. It will pursue insects, like the Flycatchers, on the wing. In incubating, no nest is made, the eggs being laid upon the rocks among roots and grasses, and in fair weather left to the heat of the sun. These eggs are usually three in number, longish oval shape, dull buff or clay in color, sparingly sprinkled with different tints of umber and light purple, and measuring about 1.75 by 1.13 inches, and are delicious eating. The delicate and beautiful tint of the breast begins to fade immediately after death. Its flight is swift and graceful, dashing boldly into the water in pursuit of game, and reascending without apparent effort.

Buff-breasted Sandpiper. (*Tryngites rufescens.*)

Fig. 7.

This bird is found throughout North America, but is known only in the United States as a migrant, breeding in Alaska and in the interior regions of the fur countries, and wintering in South America. During their fall migrations they become very fat, their food consisting of grasshoppers and other insects. The nidification is very simple, the nest consisting of a slight depression in the ground, lined with a few dried grasses and leaves. The eggs are usually four, very pointedly pyriform, in color of a clay, drab, or olivaceous green, marked with heavy blotches of rich umber-brown. But little is known of its habits, though, according to DeKay, it has been observed in Ohio, and every year is known to frequent the southern shores of Long Island.

Least Sandpiper. (*Tringa minutilla.*)

Fig. 8.

This little bird is abundant throughout the United States, especially during the migratory seasons. It reaches the Middle States from South America, where it winters, the last of April, and immediately passes to the more northern sections of the continent for the purpose of breeding. Dr. Richardson says, that on the 21st of May it was observed as far north as latitude 66°. One of its favorite places of nidification is the rock-bound coast of Labrador. Here, in some half-sheltered nook, is fashioned a little mossy home, just large enough to hold four buffy yellow-brown and drab spotted eggs. Considering the size of the bird these eggs are very large, measuring about .96 by .75 inches. As soon as their young are hatched they leave for more genial quarters, arriving along the New England coast in August, where, during that month and the following, they are found in great abundance, feeding in the salt-marshes or along the muddy and sedgy shores of tide rivers. Their food consists of larvæ, worms, minute shellfish, and aquatic insects; and in search of these they thrust their flexible and awl-shaped bills into the mud in the manner of Snipe and Woodcock. When disturbed by the hunter they give a slender "peep," immediately followed by a lisping whistle, and a general rising on the wing. At the approach of night, in fair weather—we quote from Nuttall—"the marshes almost re-echo with the shrill but rather murmuring or lisping, subdued, and querulous call of 'peet,' and then a repetition of 'pe-dee, pe-dee, dee-dee,' which seems to be the collecting cry of the old birds calling together their brood; for, when assembled, the note changes into a confused murmur of 'peet, peet,' attended by a short and suppressed whistle."

Black-headed Turnstone. (*Strepsilas melanocephalus.*)

Fig. 9.

In size and general form this bird resembles the Turnstone, differing only in the prevalence of the dark color on the head, breast, and upper parts. Professor Baird, in the ninth volume of the United States Pacific Railroad Explorations, tells us that in the museum of the Philadelphia Academy is a specimen from India which is exactly like this bird, with others, apparently from Europe, which approach it very nearly. Beyond being an inhabitant of the Pacific coast, but little is to be gleaned regarding it. Its habits are undoubtedly identical with that of the *S. interpres*, which is described in another part of the present work.

PLATE LXIII.

Canvas-back Duck. (*Fuligula vallisneria.*)

Fig. 1.

Notwithstanding the renown attained by the Canvas-back Duck, alike the delight of the sportsman and the joy of the epicure, its history is still in great obscurity. This bird is not known to nest in any of the Eastern States, but is supposed to do so in Upper California and on the Yukon. Coues says they breed from the Northern States northward, but so far no naturalist has made record of its breeding habits. Samuels describes a single egg in his collection as follows: "This is of an ovate form, nearly oval, of a pale blue color, with an olivaceous tinge, quite smooth to the touch, and quite thin and brittle. Its dimensions are 2.54 by 1.78 inches."

The Canvas-back is found all over North America, but is very rare in New England. It is a remarkable example of certain foods in imparting quality and flavor to the flesh. When taken in the Chesapeake and a few other localities, its flesh has a flavor unsurpassed by any of its kind, while in less favored spots it in no wise transcends the ordinary sea Ducks. The superiority is due to the plant called wild celery, which grows abundantly in the Chesapeake, and on which they feed. It is an aquatic plant, growing entirely beneath the water, with long, narrow ribbon-like leaves. Its botanical name is *Vallisneria spiralis*, and from its being the favorite food of the Canvas-back is recognized in the specific name of the bird. Wherever this plant abounds, the ducks acquire the peculiar flavor which makes them so famous.

They arrive in the Chesapeake and its tributaries about the last of October, and are allowed to remain unmolested for some days. They only eat the buds and roots at the base of the plants, and consequently have to dive constantly for their food. Though found

in great numbers, the Canvas-back is very shy and wary, and very difficult to approach, except through some cunning stratagem; and whether sleeping by night or feeding in the daytime, always has a sentinel on the lookout for intruders. They may be distinguished, when on the water, from all other ducks, by their constant habit of diving for food; and when on the wing they fly in a wedge-like form, at a great height, and with considerable velocity; and when wounded, they instantly dive to great depths and swim immense distances under water.

Pairs of Canvas-back Ducks sometimes weigh as much as twelve pounds, and the price ranges from two to four dollars per pair, according to season and supply. Formerly enormous swivel guns were used for their destruction; but this mode of slaughter is now forbidden by law. Many ingenious methods for hunting the Canvas-back have been invented, all of which are duly detailed in the numerous sporting books and papers published in this country.

Bank Swallow—Sand Martin. (*Cotyle riparia.*)

Fig. 2.

But few birds are more truly cosmopolitan than the Bank Swallow. It is common throughout North America, the Bermudas, the Greater Antilles, Costa Rica, Brazil, in the British Islands, the whole of Europe, and in Africa. Unlike most of the Swallow tribe, it pays little regard to man, never seeking his habitations for a shelter; but among themselves, few birds present closer or more lasting ties. They are boon companions banded together, seemingly governed by a code of laws, building thickly populated hamlets, and year after year returning regularly to their natal homes, or, if they desert these homes, doing so in complete masses without leaving a single straggler behind.

The Bank Swallow arrives in the fortieth parallel from the 1st to the 10th of May, in companies of from fifty to seventy-five pairs. If a new city is to be founded, they use due deliberation in selecting the proper site. One of the most essential conditions is contiguity to some stream. Steep banks of rivers, the embankments made by the action of the sea, any cliff of sand, gravel, or clay, are suitable places. When once the location is decided upon, they commence operation by clinging with tail and claws, and boring a hole into the earth with their short, pointed bill. As soon as sufficiently deepened to admit the body, the little miner enters and casts out with its feet the debris. If the ground is clayey and tenacious, a circular aperture is made; if loose and sandy, a rectangular, sometimes just large enough to admit the body, and then again having a diameter of three or four inches. The holes are horizontal, from one to three feet in length, seldom quite straight, though having no decided bend, and two or three inches apart. Sometimes one workman runs his lead into another's nest, when he immediately abandons his work and commences anew. As they work only in the morning, under favorable circumstances, it takes from three to four days to complete the nest. To show the extent of their colonies, Mr. Dall counted on the face of one sand-bluff in Alaska over seven hundred nest-holes made by these birds, every one of them apparently inhabited, and presenting the appearance of an immense honey-comb alive with bees.

When the burrow is finally completed, at its farthest extremity a small quantity of soft, dried grass is placed, over which is spread a few large, downy feathers. Mr. Augustus Fowler says these feathers are invariably white, and adds that he "should be surprised to find a Swallow's nest of this species lined with black or even dark-colored feathers." On this dainty bed from four to six eggs are laid, pure white, oval in shape, larger at one end, and measuring about .72 by .47 of an inch. The young are abroad about the end of June, and in August a second brood presents itself for the care of the parent birds. After they have left the nest, they are fed by the parent on the wing, and this feat is performed so suddenly as almost to be imperceptible. Some curious observer has computed the number of insects they consume in a single day, which reach the astonishing number of six thousand.

Their flight is very graceful. MacGillivray has drawn so charming a picture that we present it entire. He says: "But see! there comes the Sand Martin, skimming along the surface of the brook, gliding from side to side, deviating by starts, now sweeping over the bank, wheeling across the road, making an excursion over the cornfield, then rising perpendicularly, slanting away down the wind, fluttering among the spikes of long grass, and shooting off into the midst of a multitude of its fellows."

Cliff Swallow—Eave Swallow. (*Hirundo lunifrons.*)

Fig. 3.

Considerable discussion has arisen among ornithologists regarding the early history of this bird. It was unknown to Wilson, and up to 1820 no mention of it can be found anywhere. It is now known to be distributed throughout North America, breeding north of Pennsylvania to the Arctic regions, and east and west from shore to shore. The rapid multiplication of the Eave Swallow is probably due to the multiplied facilities for nest-building. They have kept companionship with man in his work of subduing the earth, and wherever he has erected a shelter, this Swallow has used its jutting eaves as a place beneath which to rear its young. It has also made null one of the arguments of a certain class of philosophers, who seek to prove the absence of reasoning powers in animals with the assertion that the forms of their habitations have never changed. The primal nest of the Eave Swallow, when built against a cliff, was a remarkably ingenious affair, constructed in the shape of a retort, arched over at the top, projecting in front, with an inclosed passage-way opening at the bottom. Abandoning their old breeding places, they have also abandoned their old architectures.

The Eave Swallow arrives at its northern breeding places about the first of May, and after a brief courtship, mates, and commences to construct its nest. The number of eggs laid are usually five, which are of a white ground color, marked with spots and blotches of reddish-brown, and measuring about .87 by .60 inches.

The song, though not musical, is pleasant from its constant repetition, and when in swift motion, this bird is one of the most charming objects which can be added to a rural landscape.

Rough-winged Swallow. (*Hirundo serripennis.*)

Fig. 4.

The Rough-winged Swallow is not supposed to inhabit the North-eastern States, but is more or less common in all other parts of the Union. According to Mr. Ridgway, it is one of the most abundant Swallows in the West, breeding from Ohio to the lower portions of California, and north as far as Oregon and Washington Territory. Their nests are not after the stereotype pattern, but vary to suit the locality in which they are placed. Sometimes they burrow in the sandy banks of rivers, extending their excavations as many as three feet, and in no respect differing from the nests of the Sand Martin, as described in a preceding biography. At other times they resort to natural clefts in banks or buildings, or to knot-holes in trees. From a special study of these nests, made by Dr. Brewer while at Carlisle, Pennsylvania, we extract the following description. He says: "None that we met with were in places that had been excavated by the birds, although the previous season several had been found that had apparently been excavated in banks in the same manner with the Bank Swallow. All the nests that we met with (seven in number), were in situations accidentally adapted to their need, and all were directly over running water. Some

were constructed in crevices between the stones in the walls and arches of bridges. In several instances the nests were but little above the surface of the stream. In one, the first laying had been flooded, and the eggs chilled. The birds had constructed another nest above the first one, in which were six fresh eggs, as many as in the other. One nest had been built between the stones of the wall that formed one of the sides of the flume of a mill; two feet above it was a frequented footpath, and at the same distance below, the water of the mill stream. Another nest was between the boards of a small building in which revolved a water-wheel. The entrance to it was through a knot-hole in the outer partition, and the nest rested on a small rafter between the outer and inner boardings."

The eggs are usually six in number, pure white, measuring about .75 by .53 inches.

Red-breasted Snipe—Gray Snipe. (*Macrorhamphus griseus.*)

Fig. 5.

The Red-breasted Snipe is common throughout North America, wintering in the Southern States, and as far south as Brazil and Chili, breeding in Alaska and the Arctic region generally. They commence their northern migration in April, and return again, more leisurely, early in the autumn. The nests are built with little regard to elegance, consisting of a simple hollow in some grassy hummock, near or in low-lying marshes, and containing no lining whatever. The number of eggs is usually four, with ground color of a grayish-olive, covered all over with numerous heavy and often massed markings, and measuring about 1.62 by 1.12 inches.

This bird is a gentle, affectionate, and unsuspicious creature, always associating in large flocks, flying in compact masses, and making no efforts to avoid the murderous discharge of the sportsman's gun. Partially web-footed, it swims with ease short distances. The food consists of various water-bugs, leeches, worms, and soft molluscs, besides the seeds of aquatic plants, and when in good condition, is excellent eating. When in the act of feeding on muddy flats, they probe the ground after the manner of the American Snipe, probing the soft mud with their bills with surprising rapidity. Their cry when on the wing is a single melancholy note, resembling a sort of low, long-pronounced "sweet."

Great Marbled Godwit. (*Limosa fedoa.*)

Fig. 6.

But little is known of the breeding habits of the Great Marbled Godwit, notwithstanding its widespread distribution, which covers all of temperate North America, extending into Central and South America, and the West Indies. It breeds in Missouri and Upper Missouri regions, in Iowa, Minnesota, and Eastern Dakota. It nests in open plains, near rivers or pools; the eggs presenting a clear, light olivaceous-drab, with evenly distributed spots of various shades of brown, and measuring about 2.28 by 1.56 inches. This Godwit is abundant along most of the Atlantic coast, as far north as New England. It is found in the greatest numbers, however, in the West, in the region of the Northern Mississippi and Eastern Missouri. Dr. Elliot Coues, to whom we are indebted for most of the above facts, says that "in its habits during the incubating season it most nearly resembles the Curlew, and the two species, of much the same size and general appearance, might be readily mistaken at a distance where the difference in the bill might not be perceived. On intrusion near the nest, the birds mount in the air with loud, piercing cries, hovering slowly around with labored flight, in evident distress, and approaching sometimes within a few feet of the observer."

Ring-necked Duck. (*Fuligula collaris.*)

Fig. 7.

The Ring-neck inhabits the whole of North America, wintering in the Southern States, and beyond as far as Guatemala, and is an accidental visitor in Europe. As it breeds in the far north, little has as yet been learned regarding its habits. It arrives in the United States about the middle of September, in flocks of from fifteen to twenty, flying with considerable rapidity, at a great height, and, from the movement of their wings, producing a constant whistling sound. When suitable food is found, the flesh is excellent, equaling that of any other Duck, being tender, fat, and juicy, and destitute of any rank, fishy flavor. They feed by diving and nibbling among the roots of grasses, varying their diet with snails, and the different aquatic insects. They swim with great lightness and ease, and rise from the water without effort. Audubon tells us that "they have an almost constant practice of raising the head in a curved manner, partially erecting the occipetal feathers, and emitting a note resembling the sound produced by a person blowing through a tube. At the approach of spring, the males are observed repeating this action every now and then while near the females, none of which seem to pay the least attention to their civilities."

White-bellied Swallow. (*Hirundo bicolor.*)

Fig. 8.

This graceful and friendly little Swallow is found throughout North America, breeding as far north as the Arctic regions. From association with man, he has learned new departures, becoming familiar almost to tameness. In wild regions, it breeds exclusively in hollow logs and stumps, but on the advent of man it forsakes, as far as possible, the rural districts, and takes up its abode in cities and villages. They arrive from the South from the first to the last of April, but it is not until the middle of May that they commence building or repairing their nests. Attached to certain localities, they return year after year to inhabit the same nest. Any sheltered and accessible place, a rough box, or a knot-hole in a building, answers their purpose. The nest is a loose, soft, unsymmetrical affair, formed of soft leaves and hay, and thickly lined with down and feathers. The eggs are from four to five, of a pure white color, and about .70 by .50 inches in size. Two broods are usually, though not always, raised in a season.

These birds are very affectionate to their young, and evince great solicitude for their safety. They are also extremely pugnacious during the breeding season, frequently attacking and driving away much larger birds. They are most numerous on the seashore, but many are found far inland. A pair for several years has taken possession of a part of the shelter which protects the writer, and have cheered many an hour with their sweet and constant chattering.

The myths connected with the Swallow are the most charming of any in literature, and, reproduced in full, would make a long and curious chapter.

Purple Sandpiper. (*Tringa maritima.*)

Fig. 9.

This bird is confined mostly to the sea-shore of North America, extending its wanderings as far south as the Middle States, where it winters. It is also common on the shores of Lake Michigan. Like nearly all our water-birds, but little is known of its habits of incubation, owing to its bringing forth its young in the Arctic regions. Its eggs are of the usual pyriform shape, and measure

about 1.40 by 1. inches. These are of a clay color, with delicate shadings of olive, and thickly covered with large, distinct spots of umber-brown. Their favorite haunts are rocky shores, where they may be found in flocks of a dozen or more. Their flight is rapid, and their only musical accomplishment a feeble "weet," which they repeat several times in succession. Their food consists of shrimps, shell-fish, and worms, and in autumn and winter, when fat, the young are much sought for food.

Wilson's Plover. (*Ægialitis wilsonii.*)

Fig. 10.

Wilson's Plover is confined almost entirely to the Atlantic and Gulf coasts of the United States, a few possibly being found off the shores of California. It rarely reaches farther north than Long Island, though occasionally seen in Massachusetts. It is a wading, not a swimming bird, reaching its northern range sometime in April, when they gather in small flocks of some twenty or thirty, and ramble over the sea-beaches in search of food. After becoming sufficiently recuperated from the fatigues of their journey, they pair and set up housekeeping. This is attended with but little labor, a simple hole being scratched in the sand, with a few bits of sea-weed and grass for a lining, large enough to hold three eggs of a pale olive-drab, tinted sometimes with brown or again with green, thickly spotted all over with very dark, irregular dots and small flashes, and measuring about 1.30 by 1.02 inches. The flight of this Plover is alike rapid and elegant, and when on the wing it frequently gives utterance to a clear, melodious note. Its food consists of small aquatic insects, minute shell-fish, and worms, and they feed as much by night as during the day. When fat, they are in great request among sportsmen.

PLATE LXIV.

Cinnamon Teal—Red-breasted Teal. (*Querquedula cyanoptera.*)

Fig. 1.

This Teal was entirely unknown to our early ornithologists, and until the last twenty-five years was supposed to belong entirely to South America. The many recent exploring expeditions made by the United States Government throughout the Western Territories have proved it to be an abundant bird throughout all the region west of the Rocky Mountains, and as far north as Columbia. Its nests, so far as found, have been built in swamp grass, near some stream, and lined with down. In the Geological Survey of 1872 is the record of such a nest, containing nine eggs. These eggs were oval in shape, ranging from a creamy white to a pale buff, and measuring 1.75 by 1.30. But little has been recorded regarding its habits. In fact but little is known regarding the habits of the water-birds of America. Most of them breed beyond the range of the United States in the Arctic regions, or in the unsettled portions of our Western Territories. To Dr. Coues, of the United States Army, the history of water-birds is largely indebted for careful and painstaking labor; but there still remains a vast and untrodden field for some future lover of nature to explore.

Anhinga—Snake-bird—Water-turkey—Darter. (*Plotus anhinga.*)

Fig. 2.

This bird of many names is common in the Southern Atlantic and Gulf States, extending its range up the Mississippi as far as Southern Illinois, and is also found in New Mexico. It is a constant resident of Louisiana, Alabama, and Georgia; is found in the Carolinas from April until November, inhabiting the rivers, lakes, and lagoons of the interior. Their nests are invariably placed over water, sometimes in low bushes, and then again on the tops of tall trees. These nests are fully two feet in diameter, composed of dry sticks laid crosswise, and covered with leaves, bits of moss, and slender roots. The eggs, which are usually four, are of a dull, uniform, whitish color in appearance, though really of a light-blue, the former color arising from their being covered with a sort of chalky coating, and are about 2.75 by 1.25 inches in size. They are excellent swimmers, and, from the sinuous motion of the head and neck when thus exercising, have received the name of Snake-bird. Their food consists of fish, shrimps, reptiles, and kindred aquatic fauna, which they devour in great quantities. They are expert divers, swift in flight, graceful in all their movements, and when on land walk and run with great ease, continually giving utterance to rough guttural notes. Audubon expresses his admiration for this bird by devoting twenty-three large octavo pages of his Ornithological Biography to a description of its haunts and habits.

Brewer's Blackbird—Blue-headed Grackle. (*Scolecophagus cyanocephalus.*)

Fig. 3.

Brewer's Blackbird is common from Eastern Kansas and Minnesota to the Pacific, extending south as far as Mexico, and breeding throughout its entire range. These birds are only gregarious after the breeding season is over, when they may be found in flocks of from fifty to one hundred or more. Their nests are sometimes placed upon the ground, at other times in the crotch of a tree several feet from the earth. When the former position is selected, a dry knoll in the center of a clump of bushes, surrounded by low, swampy morasses, is chosen, and a nest, large for the bird, is built of weeds, grass, and other material, and neatly lined with hair, small roots, silky bark, and fine hay. When a tree is used, an outer wall of twigs is interlaced together, sometimes slightly plastered with mud, and lined as in the former case with hair, rootlets, and fine grasses. The eggs vary from four to six, the ground colors presenting sometimes a dull, olivaceous-gray, at others a clear, pale, bluish or greenish hue, thickly spattered over with different shades of brown, and measuring about 1.05 by .78 inches. They feed in flocks on the ground, frequenting cattle-yards, travelers' camps, running with nimble steps, yet always with ease and grace. When their hunger is appeased, they fly to the nearest tree, passing the period of digestion in silence, and then breaking out into an unanimous concert. Their notes are not soft or sweet, but from their animation, rapidity, and variety, very pleasing. Coues tells us that the usual note is like the sound of pebbles smartly struck together, rapidly repeated an indefinite number of times. When fat, they are said to make very good eating.

Brown-headed Nuthatch. (*Sitta pusilla.*)

Fig. 4.

This active little Nuthatch is confined to the South Atlantic States, and wherever found is a constant resident. Its favorite haunts are pine forests, where it is enabled to gratify its excessive fondness for the seeds of this evergreen. It is a restless bird, seemingly never quiet, but pursuing its search for food over fences and trees, running up and down the latter, prying into every hole and cranny. During breeding season, this little bird-man and wife are always together, keeping up an unflagging conversation, which sounds like "dent! dent! dend! dend!" They pair early, and in February commence the task of house-building, both working constantly and eagerly together. The dead portion of some log or

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tree is chosen, and, varying from a few to thirty or forty feet in height from the ground, a hole is bored ten or twelve inches in depth, widening at the bottom, and at its mouth just large enough to admit the occupant. The eggs are laid on the bare wood, and vary from four to six in number. They are rounded oval in shape, with a white ground, thickly sprinkled with fine reddish-brown spots, and measure about .60 by .50 inches, being but very little larger than those of the Humming Bird. They are said to raise two and sometimes even three broods in a season. After the duties of bird-raising are over, they congregate in flocks of fifty or more and go roving through the pine forests the most joyous of troubadours. They have little fear of man, pursuing their avocations with but small regard for his presence.

Kentucky Warbler. (*Oporornis formosus.*)

Fig. 5

The Kentucky Warbler is known throughout Eastern United States, as far north as Connecticut, Cleveland, and Chicago, and west to Kansas and the Indian Territory, breeding throughout its United States range. It is a beautiful bird, very lively and sprightly in its habits, frequenting low, damp places in the wood. Very rarely is it found indulging in any elevated flight, but moving rapidly along dim forest paths, peering under leaves for some unfortunate spider or bug, occasionally leaping a few inches in the air to catch some dainty morsel screened in hanging leaves. Its song is not prolonged, a sort of bell-like warble which has been variously interpreted, as "whittishee, whittishee," by Dr. Hay; "tweedle, tweedle, tweedle," by Wilson, and by Mr. Ridgeway as a sharp "tship." The nest is built upon the ground under a tuft of grass or an overhanging bush. It is usually too large for the bird, inelegant in shape, composed outwardly of loose leaves with a lining of fine interwoven roots. The eggs are from four to six in number, pure white in color, finely flecked with bright red dots, and measuring about .68 by .55 inches. Wilson represents this bird as most belligerent in its habits, always pursuing its fellows without mercy. It winters in Mexico, Panama, Guatemala, and Cuba, arriving at its more northern breeding places in May, and departing the last of August.

Sandwich Tern. (*Sterna cantiaca.*)

Fig. 6.

This Tern ranges all along the Atlantic coast of North America to Southern New England, breeds as far south as Honduras, and touches Brazil in its southern limit. It is also an inhabitant of the coasts of England. Powerful in its flight, it darts down upon its prey, which consists of small fish, with incredible rapidity, half or wholly immerses its body in the water, and then rises again without seeming effort. Its cries, according to Audubon, are sharp, grating, and loud enough to be heard at the distance of half a mile; are repeated at intervals when on the wing, and are used as a note of warning to any one intruding on its breeding grounds. Such grounds are usually the sandy beaches of the ocean, on which the eggs are dropped at short intervals and without any particular effort at nest-building, the merest depression being scooped out for the purpose of receiving the eggs, which vary from two to three in number, and are of a yellowish gray in color, spotted and blotched with different shades of red, pale blue, and umber, and measuring about 2.13 by 1.20 inches. These eggs are eagerly sought after by fishermen and hunters, furnishing, according to Audubon, capital eating.

Painted Bunting—Nonpareil. (*Cyanospiza ciris.*)

Fig. 7.

The range of this exquisite little bird is confined to the South Atlantic and Gulf States, as far west as Texas, and south as far as Panama. It is also an inhabitant of Cuba, and has been observed by Mr. Ridgeway in Southern Illinois. They commence house-building early in May, constructing their habitations in the lower branches of orange trees, though sometimes using low brambles and berry bushes. The nest is composed outwardly of coarse grasses, lined with hair and other equally soft material. The eggs vary from four to five, are of a pearly bluish-white sprinkled with black spots, and measuring about .80 by .65 inches. It flies only at short distances, moves upon the ground with ease and grace, and possesses a song of great sprightliness and grace. This song resembles the Canary's, and is continued during the day. From the beauty of its plumage, the sweetness of its melody, and the docility of the bird, many of them are caught and confined in cages. They take readily to captivity, breed in confinement, and are, according to Audubon, exported in quite large numbers to Europe. The bird-catchers take advantage of the pugnacious disposition of this bird to secure them. A stuffed male bird is set in a trap, which is attacked by the first Bunting which may notice it, who is at once caught; and it is said that even after being thus imprisoned it keeps up the assault. In confinement, a single pair has been known to bring forth three broods in a season.

PLATE LXV.

Eider Duck. (*Somateria mollissima.*)

Fig. 1.

This celebrated Duck, whose down is so greatly prized in commerce, is abundant throughout the Arctic and North Atlantic coasts, migrating in winter south to New England, rarely reaching the Middle States. They begin to make their nests about the last of May, in sheltered places among rocks, in the midst of low bushes, or under the spreading branches of stunted firs. These nests are sunk as much as possible in the ground, formed of sea-weeds, mosses, and twigs closely matted together; and contain from four to five eggs, which are of a pale green color, varied from an ovate to a sharply-pointed ovoidal, and measuring about 3. by 2.25 inches. When the eggs are laid, the female plucks the down from her breast and carefully places it beneath and around them, and, when she leaves her nest for a moment, pulls this down completely over them for the purpose of keeping them warm.

When the nest has been despoiled of its eggs and covering, the Duck immediately commences anew, plucking her breast a second time, and if the robbery is again committed, the male bird's breast is brought in requisition; but if this is again taken, the birds seek other and safer quarters. When the young are hatched, the mother leads her brood to the water or carries them thither in her bill, teaches them how to dive for their food, and by the first of August leads them southward to a more genial clime. The Eider Duck flies with great rapidity, rarely very far inland, keeping near the water, is an expert diver, remaining a long time beneath the waves, and feeds on the roe of fish, mollusks, and crustacea. It has been reared in captivity and with little trouble can be domesticated, and will, from the value of its feathers, down, eggs, and even flesh, prove a valuable acquisition.

In Iceland these birds are guarded with the most sedulous care, whoever kills one being obliged to pay a fine of thirty dollars, and even the secreting of an egg or the pocketing of a little down being punishable by law. This down is very valuable, bringing in market from three to four dollars per pound. The contents of a nest, though bulky enough to fill a large hat, rarely weigh over an ounce, however. Where the birds are guarded by law they increase in immense numbers, breeding so thick that it is almost impossible to walk without treading upon them, and so tame that they may be

stroked upon the back with the hand. Even the houses are covered with nests, the window embrasures and the turf-slopes of the roof furnishing resting-places for these birds. Walls are built on the coasts, and grassy banks cut up like a chess-board for their accommodation. But two eggs are left for hatching, the balance being taken and pickled for winter consumption.

Laughing Gull. (*Larus atricilla.*)

Fig. 2.

The Laughing Gull is put down by Wheaton as among the birds of Ohio. In the summer it reaches the Atlantic coasts as far north as Maine. It is known on the Pacific coast north to California, on both coasts of Central America, the various West Indies, and is casual in Europe. It nests in marshes, making a loose structure of sea-weeds and grasses two or three inches high and three times as wide, and lays from two to three eggs. These vary from an olivaceous-drab to a grayish-green, spotted and blotched more or less thickly with different shades of brown and purple, and measure about 2.28 by 1.65 inches. Their food consists of fish, mollusks, crustacea, and the eggs and young of some of the Terns. They congregate in immense numbers, flocks of over a thousand being frequently seen. A peculiarity of this bird is that during the breeding season the white plumage of the under parts receives a rosy tint. Coues poetically says: "Nature blushes, filling the bird's breast with amorous imagery, till the feathers catch a glow and reflect the blush. Burning with inward fire, the whole frame thrills with the enthusiasm of sexual vigor. The dark glittering eye is encircled with a fiery ring; now it flashes defiance at a rival, now tenderly melts at sight of its mate." When the love-season is over the rosy plumage fades back to white, and the bird, dull-colored, ragged, seems to lose all ambition beyond the satisfaction of a gluttonous appetite. The name is derived from its joyous twitter, which in the vernal season takes on the sound of a laugh.

Razor-billed Auk—Tinker. (*Alca torda.*)

Fig. 3.

This well-known species is quite abundant on the North Atlantic coast of North America, and is probably identical with the bird of the northern regions of Europe. It wanders to the South in the winter, and is occasionally seen on the coasts of the Middle States. Audubon tells us of the picturesque sight they present in flying, first turning the white of their bellies and then the black of their backs to the spectator. They are, however, more frequently seen swimming than flying, and if pursued, apparently do not take alarm until approached within a few feet, when they dive, but only to reappear very soon at a short distance. In breeding they do not build a nest, laying their eggs, or rather egg, on the shingle of the beach. This egg is generally pure white, greatly blotched with spots of dark reddish-brown, and measuring about 3.12 by 2.10 inches, and is said to be excellent eating. The food of the Razorbill consists of small fish, shrimps, and various marine animals, including roe. When one is killed, its mate paddles around it seemingly in wonder that it does not dive or fly away, and at such times it may be approached and knocked over with an oar. Constant mention of this bird is made by Dr. Kane, to whom, on his last voyage, they became an absolute necessity, as they are to the poor savages of the Arctic regions.

Velvet Duck—White-winged Coot. (*Melanetta velvetina.*)

Fig. 4.

This bird is common to both continents, is found all along both the Pacific and Atlantic coasts to the north, and has also been observed on Lakes Erie and Michigan. It reaches the shores of the Middle States in September, often proceeding as far south as Georgia. In the beginning of April immense flocks congregate together, and in bands of from twenty to thirty individuals return to their northern breeding places. The nests, according to Audubon, are placed within a few feet of the borders of small lakes, a mile or two distant from the sea, and usually under the low boughs of the bushes, of the twigs of which, with mosses and various plants matted together, they are formed. These nests are large, lined with feathers from the birds themselves, and contain when ready for incubation six eggs. These are of a uniform cream color, tinged with green, and measure about 2.75 by 1.87 inches. The flight of the Velvet Duck is strong and sustained, and never at any great height unless when pursued by gunners. They swim with great buoyancy, and are expert divers. Their food consists of small fish, crustacea, shell-fish, spawn and sea-weeds. The flesh is strong and oily; notwithstanding it is sometimes used as an article of food.

Harlequin Duck. (*Histrionicus torquatus.*)

Fig. 5.

This Duck is an inhabitant of the northern coast of North America, is rarely found as far south as Long Island, has been observed on Lakes Erie and Michigan, and is a casual visitor on the coast of England. It is a very shy and vigilant bird, and dives beneath the water at the least approach of danger; even when on the wing, at the first flash of the sportsman's gun, plunging into the waves beneath. It is usually found in flocks of from twelve to fifteen, one of whom always acts the part of a sentinel. It breeds in Newfoundland and Labrador, where it selects some small lake a mile or so inland and builds its nest on its margin. This nest is composed of dry plants of various kinds, arranged in a circular manner and lined with fine grasses. The eggs are from four to six, plain yellowish-green in color, and measuring about 2.08 by 1.46 inches. After the eggs are laid, the female plucks the down from her breast after the manner of the Eider Duck, for the purpose of protecting them. The male entirely deserts his mate as soon as incubation commences, and when the young are hatched the mother leads them to water and carefully teaches them how to dive, by a slight note warning them of coming danger. The food of this Duck consists of small fish, roe, shrimps, mollusks, and aquatic insects. The flesh is very dark, has a strong fishy taste, and is not much esteemed as an article of food.

PLATE LXVI.

Kittiwake Gull. (*Larus tridactylus.*)

Fig. 1.

This beautiful Gull is common to the Arctic regions of both hemispheres, migrating south in winter as far as the Middle States, and according to Ridgeway and Wheaton, it occurs on Lake Michigan. It prefers the open seas to estuaries, except during the time of incubation, when it resorts to high cliffs such as the Raven would naturally seek, where it builds a nest out of sea-weeds and coarse grasses, and which with additions and slight reconstructions is used from year to year. The eggs are three in number, the form usually ovoidal, in color creamy-drab with a very slight olivaceous tint, and measuring about 2.20 by 1.60 inches. The young birds remain in their airy nest until fully fledged, when with their parents they disperse over the neighboring seas. Upon land the Kittiwake makes a very awkward appearance, but in the air or when swimming, but few birds surpass it in buoyancy, grace, and ease of

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motion. Their food consists of surface fish, small bivalves, and aquatic insects; while its name is taken from the peculiar cry with which, in the breeding season, it assails any intruder on its domain. According to Faber's Icelandic Ornithology, its swarms are so numerous on Grimsoe that they darken the sun when they fly, deafen the ear when they scream, and deck the green-capped rocks with a white covering when they breed.

Florida Jay. (*Cyanocitta floridana.*)

Fig. 2.

But few birds have so limited a range as this beautiful Jay, it having never been discovered outside the State of Florida, and even there is confined to growths of scrub oak alone. Its nest is composed of dry sticks loosely plaited together, leaving interstices so large that the bird may be seen between them, and is lined with fine rootlets and the fibers of the dwarf-palmetto. The eggs are from four to six, light blue in color, sparingly sprinkled with rufous spots, and measuring about 1.05 by .80 inches. But one brood is raised during the season. Its food consists of snails, insects, various fruits and berries, the acorns of the oak, and the seeds of the sword-palmetto. Its flight resembles that of the Canada Jay, and while its notes are more frequently uttered than those of the Blue Jay, they are much softer. According to Audubon, it is easily kept in a cage, when it will feed on fresh or dried fruit such as figs and raisins, and the kernels of various nuts, securing the food beneath its feet and breaking it to pieces before swallowing. A pair kept in confinement were fed upon rice and all kinds of dried fruit, and when, after dinner, the cage door was opened, would fly to the table and feed on the almonds that were given them and drink claret diluted with water. Both attempted to imitate particular sounds, but in a very imperfect manner.

Bahama Creeper. (*Certhiola bahamensis.*)

Fig. 3.

This bird belongs to the West India Islands, and is occasionally found upon the Keys of the southeast coast of Florida. Nothing seems to be known regarding its habits. That they resemble those of allied species is very probable, but, in the absence of any recorded facts, we simply give a life-like representation of the bird.

Bachman's Finch. (*Peucæa bachmani.*)

Fig. 4.

Until recently, the range of this bird was supposed to be confined to the States of South Carolina, Georgia, and Florida. Mr. Ridgeway reports it as breeding in Southern Illinois, and it is probably common throughout the Southern States. It receives its name from the distinguished naturalist and associate of Audubon, Dr. John Bachman, who was the first to notice it and to study its habits. It is not a shy bird, but it has a habit, after giving utterance to its melodious notes, of plunging into the tall broom grass that is invariably found near its haunts. Dr. Bachman regarded this bird as the finest singer of all the Sparrow family; and Mr. Ridgeway tells us that the song is one of the finest he has ever heard, resembling the sweet chaunt of the Field Sparrow, only stronger, and varied with a clear, high, and musical strain, resembling the syllables "thee-eeeee-til-lut, lut-lut." Its nest is made on the ground, concealed in tufts of thick grass, composed of wiry species of coarse grasses and without lining. The eggs are four in number, of a pure, clear white, and measure about .74 by .60 inches. Its food consists of fine seed, small berries, and coleopterous insects.

Red-cockaded Woodpecker. (*Picus borealis.*)

Fig. 5.

This bird is confined to the Southeastern Atlantic States, extending, though rarely, north and west to Pennsylvania and Texas. According to Audubon, the nest is usually found bored in a decayed stump, about thirty feet from the ground. The eggs are from four to six in number, pure white, elliptical in shape, and measuring about .95 by .70 inches. When the young are hatched, and before they are able to fly, they crawl out of the hole and wait on the branches for their parents to bring them food until they are able to shift for themselves. It glides up and sideways on the branches and trunks of trees with great celerity, excelling all other Woodpeckers in this respect, and constantly giving utterance to short, shrill cries that may be heard at a considerable distance. These cries are also kept up while on the wing, and during the love-season are incessant and much more vigorous. It is a pugnacious bird, defending its rights to the last. Audubon once captured one, but, as it refused to accept food from his hands, it was allowed its freedom. While in his possession it would crawl up the wall, which was brick and unplastered, and eat the stray spiders and other insects lodged in the crevices.

Red-breast Merganser—Fishing Duck. (*Mergus serrator.*)

Fig. 6.

This bird is common throughout the Northern Hemisphere, frequenting the estuaries and rivers of Great Britain. In winter it is met with on nearly every unfrozen stream of the Union. Audubon tells us that it breeds in many parts of our Middle and Eastern States, and that he found the female in charge of her brood twice in Kentucky; and that in the States of New York, Massachusetts, and Maine, it is by no means a rare occurrence to meet with the nest of this bird along the borders of small secluded lakes. It is an expert diver, at the least alarm diving beneath the water and swimming long distances, and when it approaches the surface first thrusting out its head for the purpose of reconnoitering. Its flight is strong and very rapid, and capable of being sustained for long distances. According to Audubon, it is so gluttonous that it frequently has to disgorge before it is enabled to fly, and that some kept in confinement died from overeating. Its nest is built according to latitude and the earliness of the season, from the first of March until the middle of May, and is usually placed within a short distance of the margin of fresh water. It is composed of dry weeds, mosses of various kinds, and lined with down from the breast of the female. The eggs vary from six to ten, are of a dull yellow cream-color, and measure about 2.50 by 1.62 inches. As soon as the young are hatched, they betake themselves to the water, and need but the briefest lesson to become the most expert of divers. The flesh of this bird is very tough, and has a most decided fishy flavor.

Little Black-headed Duck—Blue-bill—Broad-bill—Scaup-duck. (*Fuligula affinis.*)

Fig. 7.

This Duck inhabits the whole of North America, breeding from the extreme Northern States northward, wintering from the Middle States southward, and is found in great abundance on the Ohio, Missouri, and Mississippi rivers. It arrives at its winter quarters about the first of October, and leaves from the first of March to the middle of April. Its nest is exceedingly rude, consisting of the merest excavation and surrounded by a few sticks. The eggs are ovoidal in form, of a dirty pale drab color, and measure about 2.25

by 1.60 inches. The food of this Duck consists of small fry, crayfishes, and the coarse grasses which grow upon the banks of streams and ponds. It is an expert diver, and when wounded will frequently dive and cling to rocks or weeds on the bottom of the stream and remain there until life is extinct. According to Audubon, when these birds travel, their flight is steady, rather laborious, but greatly protracted. The whistling of their wings is heard at a considerable distance when they are passing overhead. At this time they usually move in a broad front, sometimes in a continuous line. At the approach of spring the male bird pays his addresses to the female before they set out on their journey.

PLATE LXVII.

The Raven. (*Corvus corax.*)

Fig. 1.

But few birds have a more familiar history than the Raven. Inhabiting the earth before the appearance of man, its geographical range is quite as extensive. Differing in a distinguishable degree from its European congener, the American Raven is beyond question related to it as a variety. Though found in nearly every State in the Union, they are rarely met with in the Eastern States except in favored localities. Among the romantic lakes of the Adirondack region, along the banks of the Hudson, on the shores of New Jersey, and in the wilds of Maine, they are of frequent occurrence. They are found in Kentucky, Ohio, Indiana, and in Texas alone, of the Gulf States. They are common throughout the entire Arctic regions, following the musk-ox, reindeer, and other animals of the fur countries, where they endure the intensest cold. Lewis and Clark observed them at Fort Mandan, when the thermometer stood at 45° below zero. Though frequently observed north of latitude 69°, they have never been known to breed beyond that line. Along the Pacific coast, throughout Washington Territory, California, Arizona, and on the deserts, prairies and mountains of the Western States, they are numerous. They seem inimicable to the Crow; where one abounds the other is rarely seen.

The Raven is only partially gregarious. During the day they are usually seen in pairs. When, however, some favorite carrion is found, attracted to it by sight and smell, they flock to it in great numbers. At night, during the winter season, they select some one roosting-place, usually a clump of tall trees, or, if near the seashore, some inaccessible cliff, and occupy it in immense numbers. Early in the morning a little before sunrise, they fly in pairs to their breeding places. By the first of April they are mated, and seek secluded mountainous spots in which to breed. Dr. Brewer mentions a nest in which were ten eggs, found on the 10th of April, when the snow was quite deep. These nests are constructed of sticks, coarse twigs, moss, and grass, and are lined with hair, bits of fur, and fine leaves. They are very bulky and irregular in shape, and are quite as large as a bushel basket, with a deep cavity in the center. From six to eight eggs, of a faded green color, marked with cloudings of a faint purple, or sometimes blotched with a deep purple brown, about 2. by 1.75 inches, are laid, and after about twenty days' incubation the young are hatched.

The Raven is omnivorous in its diet. MacGillivray gives the following bill of fare, which will apply to this bird wherever found: "Young hares, rabbits, rats, moles, mice, the young of poultry, pheasants, grouse, ducks, geese, eggs of all kinds, echini, mollusca, fruit, barley, wheat, oats, crustacea, grubs, worms, and fish." But few birds have so varied a diet.

In sagacity the American Raven is equal to his European peer. All naturalists and sportsmen accord him unwonted intelligence. They thoroughly understand the use of fire-arms, and while a person unarmed may get within a few rods of them, they possess the traditional faculty of smelling gunpowder, and keep a proper distance from it. Their flesh is extremely rank and unsavory, and is avoided even by wild animals.

The literature of the Raven is the most extensive of any relating to birds. Primitive man everywhere endowed him with mysterious intelligence. He was the first bird sent out by Noah after the landing on the peaks of Ararat. He was selected by God to feed the prophet in the wilderness. In the Koran, he taught Cain how to dispose of murdered Abel, by killing a bird and burying it before his eyes. In the Scandinavian mythology, two Ravens, Memory and Thought, sit on each shoulder of Odin, and fly over the world for the purpose of bringing him intelligence. In the myths of the Greeks and Romans it plays a like conspicuous part, and anecdotes of its sagacity are to be met with everywhere.

Common Crow. (*Corvus americanus.*)

Fig. 2.

This Crow is found in great abundance throughout the Eastern States, extending west to the Mississippi, and in summer migrating to the Arctic region. It is not known to occur in California. But few birds have been so persistently hunted as this. In many States, bounties have been offered for his destruction; but so wary and wise is he, that, notwithstanding, he holds his own, if he does not increase in numbers. The Crow breeds from April to June, varying with the latitude which he selects for the purpose of incubation. The nest is usually built in the topmost branches of some inaccessible pine or hemlock, and is made first of a layer of coarse twigs and sticks, then a layer of fine bark intermixed with mosses and bunches of grass, the whole lined with hair, fine fibres of the evergreens, and kindred material. The eggs are four in number, of various shades of green, covered with blotches and spots of different browns, and measuring about 1.60 by 1.12 inches.

Recently the question—Is the Crow the farmer's friend or enemy? has been very fully discussed, and is yet not definitely settled. By his anatomy and physiology the Crow is about as nearly omnivorous as a bird can well be, and we therefore find him appropriating all kinds of food, whether animal or vegetable. In various numbers of the American Naturalist it is asserted that he will attack our barnyard chickens and carry them off, and that he is a constant depredator on the young and eggs of our smaller birds. Mr. Samuels, in his Birds of New England, devotes many pages to the discussion of the Crow's utility, and makes out a fearful debit against him, numbering nearly five thousand units, while the credit side shows but two hundred and twenty-nine units. But this author draws largely upon his imagination, giving each Crow a daily bill of fare of a dozen smaller birds.

During early spring, the Crow is one of the most beneficial of birds, his food at that time consisting of carrion and noxious insects. It destroys in immense numbers the young of grasshoppers, which are found in pasture lands and meadows as soon as the snow leaves the ground. It is not until later that they make depredations which waken the granger's ire. During the month of May the Crow displays a wonderful fondness for sprouting corn, and then needs constant watching. Dr. Brewer tells us that in the West they are not known to make any raids upon the cornfields, and are regarded as benefactors, receiving protection and good treatment; and that in that region they evince none of that wariness which makes them so difficult to approach in the East.

The Crow becomes easily domesticated when captured young, and proves an interesting as well as mischievous pet. It learns to articulate sounds. Dr. Brewer mentions one that learned to play hide-and-seek with a family of children, invariably surpassing them in the game. Many amusing anecdotes are told of him, and his place in mythological lore is quite as extensive as that of the Raven.

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It is claimed that he not only knows how to count as high as five, but also knows when Sunday arrives. But this latter accomplishment is confined to the Crow of the old world, as some of our American sportsmen have about as much regard for Sunday as they have for the rights of the animal himself.

Canada Jay. (*Perisoreus canadensis.*)

Fig. 3.

The Canada Jay is common throughout the northern part of North America, breeding from New England, New York, and Minnesota, northward, and is a rare straggler in the Middle Atlantic States during the winter months. Its nest is built on the limbs of trees, and is quite bulky, measuring from four to six inches across, and from three to four in depth. It is woven on a rude platform of sticks, and consists of fine mosses neatly felted together and lined with feathers. The eggs are usually three, the ground color of a grayish-white, marked all over with several shades of olive-brown, and measuring about 1.20 by .70 inches. The Canada Jay is a very bold and familiar bird, and has been known to fly down and steal his dinner from a hungry dog. It hoards whatever food it may not require for immediate consumption, hiding it between layers of bark, and in other convenient places. Its musical accomplishments are confined to a squeaking noise, though it is sometimes known to chatter. Audubon, in speaking of their musical efforts, says that they have an odd way of nodding their heads and jerking their body and tail, while they emit their curiously diversified notes, which at times resemble a low sort of mewing, at others, the sound given out by an anvil when lightly struck with a hammer. They raise but one brood in a season, and occupy the same nest from year to year.

Robin or Robin Redbreast. (*Turdus migratorius.*)

Fig. 4.

The Robin is probably the most familiar of all the birds of North America. Its range extends from the plateau of Mexico to Greenland, and is bounded east and west by the Atlantic and Pacific oceans. In winter it is most abundant in the Southern States, but its migration is due to the supply of food rather than the severity of the climate, and where wild berries are abundant it will remain through the winter, though the ground may be covered with snow, and the thermometer reach the freezing point of mercury.

The Robin arrives in the Eastern States from the middle to the 25th of April. Some of them pair immediately, and commence house-building before the snow has fully disappeared. By the 20th of May the full-fledged young were seen turned out to care for themselves. Others are not in such haste to woo, and almost any day from the first to the middle of May, the most careless observer may witness ferocious contests between the males for the possession of some waiting and no doubt willing maid. The nest is extravagant in size, and rather bungling in workmanship, constructed first of thick layers of moss, straw, weeds, and roots, in which a cavity is rounded, plastered with mud, and then lined with fine grasses and kindred material. Dr. C. C. Abbott, in the Popular Science Monthly, describes thirty-two of these nests, which he had gathered for the purpose of comparison. Eleven of these corresponded with the foregoing description, while the remaining ones varied in a greater or lesser degree. He says: "Taking a careful survey of the whole thirty-two nests, they suggested at once an ordinary village; there were handsome structures, such as opulence builds, and very modest ones, such as those in straightened circumstances are compelled to occupy." This dissimilarity he attributes to the different temperament of birds.

When the nests are finished, from four to six eggs are laid. These are of a bright uniform greenish-blue color, liable to fade in the sunlight, and measuring about 1.25 by .88 inches. The female is usually about eleven days in incubating. Eight days after the young are hatched, their eyes are open, and in eleven days they are fully fledged. The care of the parents does not cease with the young birds leaving the nest, but is continued a few days after. Two broods are raised in a season.

The food of the Robin consists largely of earthworms, and the large family of insects that burrow in the earth preparatory to their transformations. In their season, it is very fond of strawberries and cherries; but it is very possible that there would not a cherry grow fit to eat were it not for this and other birds, and its contributions in this direction are scant pay for the immense good it does.

House, Domestic, or European Sparrow. (*Pyrgita domestica.*)

Fig. 5.

The rapid distribution of the English Sparrow throughout the United States will soon make it the most familiar of our birds. First introduced in 1858 in Portland, Maine, it has been constantly tending toward the West. No climate seems too severe for their abode. Inhabitants of all Europe from Sweden to Italy, of Morocco, Algiers, Egypt, and Persia, they have at last taken the New World as by storm. The spot chosen for a nest is some hole or cavity or crack in a wall or chimney or other convenient place, though always availing themselves of the bird-houses when they are obtainable. The nest is very bulky, and is composed of straw, stalks of small plants, rags of woolen or cotton, and lined with feathers and other soft material. The eggs vary from four to six, are grayish-white in color, more or less covered with longitudinally oblong spots of pale gray and grayish-black, and measure about .88 by .72 inches. This bird is very tame and fearless, and will allow the nearest approach without evincing any uneasiness. During the winter months they keep together in flocks of from fifty to a hundred, and have little difficulty in picking a living out of the streets of our cities and villages. Its flight is undulated and rapid, and when on the ground it advances by hops and leaps. In summer it rolls in the dirt, and basks in the sun like our domestic fowl. The musical accomplishments of these birds are few. Their utterances are confined to a single note; but on a bright winter morning, in the absence of all other singers, the effect is quite cheering, if not charming. Like the Robin, they are very fond of angle-worms, and, not being so expert in digging, they frequently rush in upon their American brother and steal the dainty morsel from his very mouth.

There has been considerable discussion regarding the real utility of the English Sparrow. Nearly all the writers on ornithology in the Old World condemn him. Among his most strenuous champions in the United States is Dr. Brewer, of Boston, a careful observer, and an authority in all matters pertaining to the science. Whatever may be the conclusions arrived at, they will be too late to affect the English Sparrow himself. He has made this country his own; and a bird that can stand a climate where the thermometer frequently reaches thirty degrees below zero is not one easy to exterminate.

PLATE LXVIII.

American or Red Flamingo. (*Phoenicopteri roseus.*)

The American Flamingo is to be found mostly in the tropical regions. Dr. Brehm says: "Naturalists are at present acquainted with about half a dozen species, and although the history of some of them is far from complete, enough is known to induce us to be

lieve that in their mode of life they differ in no respect from the species with which we are best acquainted. These remarkable birds are widely distributed over the warmer portions of the globe, and are met with principally in Asia, Africa, and South Europe. According to accounts of both ancient and modern writers, they make their appearance every year in great numbers in the vicinity of the lakes of Sardinia and Sicily, as also in Albufera de Valencia and other parts of Spain. Along the coasts of Egypt, Tripoli, Tunis, Algiers, and Morocco, they are abundant, as also in Smyrna, and near the banks of the Volga, but are very rarely met with in Greece. Occasionally a few stragglers have been seen as far north as the banks of the Rhine. Generally speaking, however, the south coast of Europe must be regarded as their northern limit, and North Africa and Central Asia as their usual habitat. Those species that inhabit the Western Hemisphere are likewise confined within corresponding limits. Lakes of salt or brackish water in the vicinity of sea-coasts are the favorite resorts of the Flamingoes. To lakes of fresh water they are only casual visitants, and never resort to them for any length of time. On the other hand, they are always very abundant on the sea-coast, more especially where the shores are flat and swampy. Only those who have had the good fortune to see these birds assembled in flocks, consisting of many thousands, can form an adequate idea of the beauty of their appearance."

"Looking from Cagliari to the sea," says Cetti, "it seemed to be banked in with a wall of red bricks, or to be covered with countless numbers of roses. On nearer approach these proved to be Flamingoes ranged in regular ranks. Aurora herself was never adorned with more roseate tints than the wings of these birds. They seemed literally to glow with pink and carmine. The name of the Flamingo, both in Greek and Latin, was derived from the magnificent hues of their glorious wings, and the French, in the epithet *flammant*, only repeat the same idea. The first impression produced by such a spectacle is not easily to be forgotten. The birds stood in ranks, not merely of thousands, but literally of hundreds of thousands, ranged in interminable array. As the sunlight played upon the dazzling white and glowing red, the effect was indescribable. At length, taking alarm at something, the whole body of them rose into the air, displaying their wings to still greater advantage as they formed themselves into an immense wedge-shaped phalanx, and winged their way far up into the blue sky."

When standing quietly upon the shore the appearance of these birds very much resembles that of an army drawn up in order of battle. The Cingalese call them "English soldier birds," the South Americans simply "soldiers," and, indeed, not without cause, for, as Humboldt informs us, the inhabitants of Angostura, soon after the establishment of that colony, were one day thrown into a state of great alarm by the sudden appearance of what they took to be a numerous army, and it was only when the supposed enemy took flight to the shores of the Orinoco, that they discovered their mistake. A solitary Flamingo is very rarely seen, never perhaps before the commencement of the pairing season, and even then it must be some young bird that has strayed by accident from its fellows. Usually they keep together in flocks, and carefully avoid any locality where danger might be apprehended. Open waters are usually selected as their fishing place, and should a boat approach they at once take flight whilst it is still far off, so that it is by no means easy to observe their proceedings, except with the aid of a telescope. In general they may be seen with their legs immersed in the water, or more rarely on the dry shore of our sand-banks, with their necks curved in a very peculiar manner (see plate) in front of the breast, the head being laid as it were upon the back, or buried beneath the shoulder-feathers of the wing; generally the whole weight of the body is supported by one leg, the other being held obliquely backward or drawn up close to the body; in this strange position the Flamingo sleeps. The manner in which these birds obtain their food is equally remarkable. Like all other sieve-beaked birds, the materials upon which they subsist are procured by raking in the mud. The Flamingo, when in search of food, wades into the water to a convenient depth, and then bends down its long neck until its head is upon the same level as its feet; it then plunges its beak, with the upper mandible downward, into the mud. In this position the bird rakes about at the bottom of the water, moving backward and forward with short steps, and opening and shutting its bill whilst its tongue is busily at work. When taking flight from the sea or lake in which it has been feeding, it not unfrequently goes to a considerable distance, half running and half flying over the surface of the water, much after the the manner of a Duck or Water-hen. When fairly on the wing a flying Flamingo could not be mistaken for any other bird, even by the most unpracticed novice. Unlike the generality of long-necked birds, it stretches not only its long legs, but its neck straight out, thus presenting an appearance of extraordinary length and slenderness; so that, with its narrow wings exactly in the center, it assumes pretty much the shape of a cross. The loud, harsh voice of these birds somewhat resembles that of a goose. The food of the Flamingo consists principally of water-snails, worms, crustaceans, and small fishes, but it by no means despises vegetable substances, and in a state of captivity will eat boiled rice, corn, or soaked bread. The nest is made in shallow places in the water, or as the Arabs assert, upon flat insular spots, overgrown with low vegetation. In the first case the nest is a conical heap of mud scraped together by the feet of the bird, and raised so high that its top is a foot and a half above the water. In the second case it consists of a mere hollow trough, scooped out in the soil and lined with sedge, rushes, grass, and similar materials. The number of eggs laid is generally two, occasionally three. Their shape is elongated, and their shell smooth and of chalky whiteness.

PLATE LXIX.

Common Gannet—Solon Goose. (*Sula bassana.*)

Fig. 1.

The Gannet, or Solon Goose, is a species of marine bird common on the coasts of both Europe and North America. The Arctic regions of both continents furnish the necessary abiding-place during the summer months.

According to McGillivray, "When sitting, the Gannets allow a person to approach within three feet, sometimes much nearer, so that one may even touch them. When approached, they merely open their bill and utter their usual cry, or rise to their feet and express some degree of resentment, but little apprehension of danger. They take advantage of the absence of their neighbors to pilfer the materials of their nests; frequently two join in the same act, and occasionally they may be seen at the same bunch, endeavoring to wrest it from each other. They are constantly repairing their nests, which, being composed in great measure of seaweeds, shrink up in dry weather, and decompose in wet; and when seated close together have frequent quarrels. I saw one seize its neighbor by the back of the neck, and hold fast until the assaulted bird, I may say, roared out; but in general they are satisfied with menacing each other with their open bills and loud clamor. Their cry is hoarse and harsh, and may be expressed by the syllables 'carra, carra, kirra, kirra;' sometimes it is 'crai, crai,' or 'cru, cru,' or 'cree, cree.' The cry varies considerably in different individuals, some having a sharper voice than others; and when unusually irritated they repeat it with great rapidity."

"The fishermen," says Mr. Couch, "learn by their actions when shoals of pilchards are present, and what course they are pursuing. The Gannet takes its prey in a different manner from

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any other of our aquatic birds; for, traversing the air in all directions, as soon as it discovers the fish, it rises to such a height as experience shows best calculated to carry it by a downward motion to the required depth, and then, partially closing its wings, it falls perpendicularly upon the prey, and rarely without success; the time between the plunge and immersion being about fifteen seconds."

This species is from thirty to thirty-three inches long, and from seventy-two to seventy-four inches broad. The wing measures twenty-one, and the tail ten inches. The female is somewhat smaller than her mate.

Forster's or Havell's Tern. (*Sterna forsteri.*)

Fig. 2.

This bird has often been taken to be the common Tern, which is a mistake. The late authorities all agree that it is a distinct and separate species.

Dr. Coues says: "No Tern of this country is more widely and generally distributed than this one. It may be found in every part of the country, at one season or another, and in the interior, especially, almost replaces the common Tern, being in fact the most characteristic of the species. Doubtless some of the local quotations of 'the common Tern' from interior States really refer to this species. It appears to be hardier than some of its allies, as it winters on our Atlantic coast north of Long Island, while most others proceed further south at this season. It is the commonest Tern, in winter and during the migrations, in the harbor of Baltimore. Nevertheless its wanderings at this season are pushed to South America. On the Carolina coast it is chiefly a migrant, but also a winter resident. Comparing it with the common Tern, it is there seen to be the more northerly species of the two, migrating earlier in the spring and later in the fall, besides wintering where the common Tern does not. A few of Forster's Terns come back to the Carolinas in August; they become abundant the following month, and there is little or no decrease of their numbers until December, when a part go further south, to return the latter part of March, and the rest remain. It is one of the most plentiful Terns on the harbor of Beaufort in October and November, when it may be distinguished at any reasonable distance with ease, Wilson's Tern being the only one at all resembling it, and this being differently marked about the head at this season. Quite early in the spring it leaves for its northern breeding-grounds, generally acquiring its complete plumage before it leaves the United States. It breeds in the interior of British America." The general habits of this bird agree entirely with the other well known species of Terns.

Big Black-head—Greater Scaup Duck—Blue Bill—Broad Bill—Shuffler. (*Fuligula marilla.*)

Fig. 3.

Nuttall says: "This species, better known in America by the name of the Blue Bill, is another general inhabitant of the whole Northern Hemisphere; passing the period of reproduction in the remote and desolate hyperboreal regions, from whence, at the approach of winter, they issue over the temperate parts of Europe as far as France and Switzerland; and in the United States are observed to winter in the Delaware, and probably proceed as far as the waters of the Southern States. . . . Their breeding-places, according to the intelligent and indefatigable Richardson, are in the remote fur countries, from the most southern point of Hudson's Bay to their utmost northern limits. The present species is said to derive its name from feeding on scaup, or broken shell-fish, for which, and other articles of subsistence, such as marine insects, fry, and marine vegetables, it is often seen diving with great alertness. It is a common species here, both in fresh waters and bays. They particularly frequent such places as abound in their usual fare, and, like most of their tribe, take advantage of the accommodation of moonlight. They leave the Middle States in April, or early in May.

"Both male and female of the Scaup make a similar grunting noise, and have the same singular toss of the head, with an opening of the bill, when sporting on the water in the spring. While here, they are heard occasionally to utter a guttural *quauck*, very different from that of the common Ducks. In a state of domestication, during the summer months, when the larvæ of various insects are to be found in the mud at the bottom of the pond they frequent, they are observed to be almost continually diving. They feed, however, contentedly on barley, and become so tame as to come to the edge of the water for a morsel of bread. Mr. Rennie adds: 'Of all the aquatic birds we have had, taken from their native wilds, none have appeared so familiar as the Scaup. The flesh of this species is but little esteemed, though the young are more tender and palatable.'"

PLATE LXX.

Audubon's Warbler. (*Dendroeca audubonii.*)

Fig. 1.

This, in some localities, from the Rocky Mountains to the Pacific, is a common species. In the spring it may be found in company with the Yellow Warbler, occupying the undershrubbery, occasionally venturing into the open fields and clearings. It was discovered by Mr. Townsend, who named it after Mr. Audubon. He states that "the Chinock Indians know it by the name of '*Fout-sah*,' and that it is very numerous about the Columbia River." Audubon says: "Its voice so nearly resembles that of the Chestnut-sided Warbler as to render it difficult to distinguish them." Mr. Nuttall gives the following account of this Warbler: "This elegant species, one of the beautiful and ever welcome harbingers of approaching summer, we found about the middle of April accompanying its kindred troop of warblers, enlivening the dark and dreary wilds of the Oregon. . . . . Nothing contributes so much life to the scene as the arrival of those seraphic birds, the Thrushes and Warblers, which, uniting in one wild and ecstatic chorus of delight, seemed to portray, however transiently, the real rather than the imaginary pleasures of Paradise. . . . The harmonies of nature are not made to tire, but to refresh the best feelings of the mind, to recall the past, and to make us dwell with delight upon that which best deserves our recollection. But what was my surprise to hear the accustomed note of the summer Yellow Bird delivered in an improved state by this new warbler, clad in a robe so different but yet so beautiful. Like that species, also, he was destined to become our summer acquaintance, breeding and rearing his offspring in the shady firs by the borders of the prairie openings, where he could, at all times, easily obtain a supply of insects or their larvæ."

Townsend's Warbler. (*Dendroeca townsendii.*)

Fig. 2.

This species is met with from the Rocky Mountains to the Pacific, but is nowhere abundant. Nutall says: "Of this fine species we know very little, it being one of those transient visiters, which, on their way to the north, merely stop a few days to feed and recruit, previous to their arrival in the higher latitudes, or afterward disperse in pairs, and are lost sight of till the returning frosts and famine of the season impel them again to migrate, when, falling on the same path, they are seen in small, silent flocks advancing

toward the retreat they seek out for their temporary abode. As this species frequents the upper parts of the lofty firs, it was almost an accident to obtain it at all."

Black-throated Gray Warbler. (*Dendroeca nigrescens.*)

Fig. 3.

This remarkably curious species resembles the Black-poll Warbler. It ranges from the Rocky Mountains to the Pacific, south through Mexico. Nuttall says: "I had the satisfaction of hearkening to the delicate but monotonous song of this bird, as he busily and intently searched every leafy bough and expanding bud for larvæ and insects in a spreading oak, from whence he delivered his solitary note. Sometimes he remained a minute or two stationary, but more generally continued in quest of prey. His song, at short and regular intervals, seemed like *t'shee, t'shay, t'shait-shee*, varying the feeble sound very little, and with the concluding note somewhat suddenly and plaintively raised."

Western or Hermit Warbler. (*Dendroeca occidentalis.*)

Fig. 4.

"The Hermit Warbler, I have little doubt," Nuttall says, "breeds in the dark forests of the Columbia, where we saw and heard it singing in the month of June, near the outlet of the Wahlamet. It is a remarkably shy and solitary bird, retiring into the darkest and most silent recesses of the evergreens, where, gaining a glimpse of the light by assending the loftiest branches of the gigantic firs, it occupies in solitude a world of its own, but seldom invaded even by the prying Jay, who also retreats, as a last resort, to the same sad gloom. In consequence of this erimitic predilection, it is with extreme difficulty that we ever get sight of our wily and retiring subject, who, no doubt, breeds and feeds in the tops of these firs. Its song, frequently heard from the same place, at very regular intervals, for an hour or two at a time, is a soft, moody, faint, and monotonous note, apparently delivered chiefly when the bird is at rest on some lofty twig, and within convenient hearing of its mate and only companion of the wilderness."

Blue Mountain Warbler. (*Dendroeca montana.*)

Fig. 5.

This species, although ascribed to North America, is not now known to exist.

Macgillivray's, or Tolmie's Ground Warblers. (*Geothlypis macgillivrayi.*)

Fig. 6.

This is one of our common species of Warblers. It usually appears in the north and west early in May, and remains until near winter, when it returns to the south. After the manner of the Maryland Yellow-throat, says Nuttall, "it keeps near ground in low brushes, where it gleans its subsistence. When surprised or closely observed, it is shy and jealous, immediately skulking off, and sometimes uttering a loud snapping click. Its note has occasionally the hurried rattling sound of the Golden-crowned Thrush, resembling *t'tsh t'tsh t'tsh tsheete*, altering into *tsh tsh tsh teet shee*. Another male, on the skirts of a thicket, called out at short intervals, *vish vishtyu*, changing to *vit vit vit vityu* and *vit vit vityu*, sometimes, when approached, dropping his voice and abbreviating his song. Another had a call of *visht visht visht e visht e shew* and *visht visht visht eshew* or *vititshee*. The nest is chiefly made of strips of the inner scaly bark of probably the white cedar, lined with slender wiry stalks of dry weeds, and concealed near the ground in the dead mossy limits of a fallen oak, and further partly hidden by a long tuft of moss. . . . On returning the nest to the place it had been taken from, I had almost immediately the satisfaction of seeing the anxious parents come to find their charge, and for some days they showed great uneasiness on being approached."

Mr. Townsend says, "It is mostly solitary and extremely wary, keeping chiefly in the most impenetrable thickets, and gliding through them in a cautious and suspicious manner. It may, however, sometimes be seen toward mid-day perched upon a dead twig over its favorite places of concealment, and at such times warbles a very sprightly and pleasant little song, raising its head until its bill is almost vertical, swelling its throat in the manner of its relatives."

Bachman's Warbler. (*Helminthophaga bachmanii.*)

Fig. 7.

A very rare species of Warbler, said to be confined exclusively to the South Atlantic States. It was first obtained a few miles from Charleston, South Carolina, by Dr. Bachman, after whom it is named. Nuttall says: "It appears to be a lively, active species, frequenting thick bushes, through which it glides after insects, or, occasionally mounting on wing, it seizes them in the air."

Swainson's Warbler. (*Helmitherus swainsonii.*)

Fig. 8.

An exceedingly rare species, confined to the South Atlantic States. "The wild orange groves of Florida," Maynard says, "are quite abundant along the streams, and grow upon shell mounds which were formed by the Indians many years ago. As these trees do not grow in any other situation than those which bear evidence of having been the residence of man, this is a strong argument in favor of their having been introduced into the country by the Spaniards, and distributed by them or the original inhabitants. These groves are always noticeable landmarks, when passing along the St. John's river, on account of the dark green foliage, but when in early winter the golden fruit appears surrounded by the glossy leaves the effect is striking; later in February, when the snowy clusters of blossoms burst forth, and the air becomes redolent with their fragrance, the desire to linger in such a spot becomes almost irresistible. Hundreds of birds frequent these lovely retreats, and many build their nests among the branches. These are places where one would naturally look for rare species, and it was in an orange grove that Mr. Thaxter found the specimen."

Carbonated Warbler. (*Dendroeca carbonata.*)

Fig. 9.

This species is only known by the figure and description of a pair killed in Kentucky, and, according to Coues, is not now known to exist.

Orange-crowned Warbler. (*Helminthophaga celata.*)

Fig. 10.

Audubon says: "This species is seen in the Southern States, where it passes the winter, and while crossing the Union, in early spring, on its way to those northeastern districts where it breeds. It leaves Louisiana, the Floridas, and Carolinas from the beginning to the end of April, is seen in the Middle States about the tenth of

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May, and reaches the State of Maine and the British Provinces by the end of that month. On its return, besides settling in the Southern States, it spreads over the provinces of Mexico, from whence individuals in spring migrate, by the vast prairies, and along the shores of the western parts of the Union, entering Canada in that direction in the first days of June; . . . breeds in the eastern parts of Maine and in the British Provinces of New Brunswick and Nova Scotia." Maynard says: "The Orange-crowned Warblers are lively little birds, usually frequenting hummocks and the underbrush which grows about them. I think they rarely visit the pine woods. These birds are very unsuspicious and may be approached quite nearly, but when alarmed will utter a quick, sharp chirp, and instantly conceal themselves in the nearest thicket."

Varied Thrush—Oregon Robin. (*Turdus nævius.*)

Fig. 11.

"*The Chicago Field*," a superior journal, published in the interest of the sportsman, contains a very interesting account of this species, written by Dr. Elliott Coues. We extract as follows: "In the United States, it seems to have been first noticed by two American naturalists, Thomas Nuttall and J. K. Townsend, who found it in Oregon. The first named of these observed its arrival on the Columbia River from the North in October, when it was flirting through the forests in small flocks, maintaining perfect silence, and proving very timid and difficult to approach. It winters in that region, and has a pleasing song before it departs for its northern summer home. Dr. J. G. Cooper and Dr. George Suckley, the well known naturalists, have given us more extended notices of the Oregon Robin. They found it common in Oregon and Washington Territories during the spring, autumn, and winter, and occasionally saw it in the dark spruce forests in June and July. They describe it as much more shy and retiring than the common Robin, and as having an entirely different song. During severe winter weather, it becomes more familiar, often coming about the houses and feeding on the ground in company with the common Robin. It is known to the settlers as the 'spotted,' 'painted,' and golden Robin, and is always conspicuous by the black crescent on the breast. . . . It inhabits North America, part of the Rocky Mountains, from high Arctic regions in Alaska to the extremity of Southern California, unless at a considerable altitude in the Sierra Nevada and Coast Ranges, the latitude of San Francisco perhaps, being about as far south as it is at all common. In this great extent of country the bird appears as a winter visitor, arriving in the fall and departing in the spring, in all the region south of the Columbia River, while north of this point it occurs in summer, nesting and rearing its young."

Dwarf Thrush. (*Turdus nanus.*)

Fig. 12.

This bird is a variety of the species Hermit Thrush, or Ground Swamp Robin. It is met with west of the Rocky Mountains, and is also accredited to Pennsylvania. Dr. Coues says: "There is unquestionably but a single species of Hermit Thrush in North America. It is impossible to draw any dividing line between the so-called species, and, in fact, it is sufficiently difficult to predicate varietal distinction."

PLATE LXXI.

Steller's Jay. (*Cyanurus stellerii.*)

Fig. 1.

This species was found by Steller at Nootka. It is frequently met with in the western part of North America. Nuttall, in his interesting account of this bird, says: "We first observed this bird in our western route in the Blue Mountains of the Oregon, east of the Walla-Walla. Here they were scarce and shy, but we met them in sufficient abundance in the majestic pine forests of the Columbia, where, in autumn, their loud and trumpeting clangor was heard at all hours of the day, calling out *djay*, *djay*, and sometimes chattering and uttering a variety of other notes very similar to those of the common Blue Jay. They are, however, far more bold, irritable, and familiar. Watchful as dogs, a stranger no sooner shows himself in their vicinity than they neglect all other employment to come round, follow, peep at, and scold him, sometimes with such pertinacity and irritability as to provoke the sportsman, intent on other game, to level his gun against them in mere retaliation. At other times, stimulated by curiosity, they will follow you in perfect silence, until something arouses their ready ire, when the *djay*, *djay*, *pay*, *pay*, is poured upon you without intermission till you are beyond their view. So intent are they on vociferating, that it is not uncommon to hear them busily scolding, even while engaged with a large acorn in the mouth."

The food consists of insects, acorns, and pine seeds, found along the Pacific. The nest consists of mud, roots, and twigs, and lined with root fibers. The eggs, usually four, are of a pale green color, with small olive-brown dots.

Yellow-headed Black-bird. (*Xanthocephalus icterocephalus.*)

Fig. 2.

Prince Bonaparte first published an account of this bird in his continuation of Wilson's American Ornithology in 1825. It is acknowledged to be one of the handsomest Black-birds to be met with in North America. It is abundant in the Western States, especially so on the prairies and marshes from Illinois and Wisconsin westward. It also reaches eastward to British America, retiring as soon as cold weather approaches.

The Yellow-headed Black-birds, as usually met with, gather together in large flocks, and in their habits and characteristics resemble the Red-wing Black-birds. They frequently make good use of their long, strong legs and large claws by appearing on the ground in search of food. In the spring their food consists of insects and their larvæ, which they dig out of the soil with their bills, and in the fall chiefly on the seeds of vegetables. According to Nuttall, "they are very active, straddle about with a quaint gait, and now and then, in the manner of the Cow Bird, whistle out, with great effort, a chuckling note sounding like *ko-kukkle-'ait*, often varying into a straining squeak, as if using their utmost endeavor to make some kind of noise in token of sociability. Their music is, however, even inferior to the harsh note of the Cow Bird.

"The nest," says Coues, "is placed in a tuft of upright reeds or rank grasses, some of which pass through its walls, fastening it securely, like that of a Marsh Wren, though it may sway with the motion of the rushes. Probably, to render it light enough to be supported on such weak foundation, no mud is used in its composition; the structure is entirely woven, and plaited with bits of dried reeds and long, coarse, aquatic grasses, not lined with any different material, although the inside strands are the finer. . . . The whole thing measures five or six inches across, and is nearly as deep. The eggs may be from three to six in number; two selected

specimens measured 1.04 by 0.75 and 1.15 by 0.76. They are pale grayish-green, spotted all over with several shades of reddish-brown, sometimes so thickly, especially at the larger end, as to hide the ground-color.

Chestnut-backed Titmouse, Chickadee, or Tit. (*Parus rufescens.*)

Fig. 3.

This is one of our restless little species, that is frequently met with on the coast ranges to the Pacific, from Sitka to Santa Cruz. The social feeling and sympathy of these little creatures for their companions is far ahead of some of God's more divine creatures. Let man approach their nest, or thin their ranks with a gun, and he will be surprised to see the courage, anxiety, and solicitude they show for one another. According to Nuttall, "they are commonly seen in small flocks of all ages in the autumn and winter, when they move about briskly, and emit a number of feeble, querulous notes, after the manner of the Chickadee, or common species, *Parus atricapillus*, but seldom utter anything like a song, though now and then, as they glean about, they utter a *t'she, de, de*, or *t'dee, t'dee, dee*, their more common querulous call, however, being like *t'she, dé, de, vait, t'she, de, de, vait;* sometimes also a confused warbling chatter. The busy troop, accompanied often by the Carolina species, and the *Regulus tricolor*, are seen flitting through bushes and thickets, carefully gleaning insects and larvæ for an instant, and are then off to some other place around, proceeding with restless activity to gratify the calls of hunger and the stimulus of caprice. Thus they are seen to rove for miles together, until satisfied or fatigued, when they retire to rest in the recesses of the darkest forests, situations which they eventually choose for their temporary domicile, where in solitude and retirement they rear their young, and for the whole of the succeeding autumn and winter remain probably together in families." The nest is said to be made of "large quantities of hypna and lichens, copiously and coarsely lined with deer's hair and large feathers, such as those of the Grouse and Jays."

Least Titmouse, Chestnut-crowned Titmouse, or Tit. (*Psaltriparus minimus.*)

Fig. 4.

The Pacific coast to Sierra Nevada is the abiding-place of this species. It is closely related to the Leader Titmouse. "Hopping about in the hazel thickets," says Nuttall, "which border the alluvial meadows of the river, they appeared very intent and industriously engaged in quest of small insects, chirping now and then a slender call of recognition. They generally flew off in pairs, but were by no means shy, and kept always in the low bushes or the skirt of the woods. The following day I heard the males utter a sort of weak, monotonous, short, and quaint song, and about a week afterward I had the good fortune to find the nest, about which the male was so particularly solicitous as almost unwittingly to draw me to the spot, where hung from a low bush, about four feet from the ground, his little curious mansion, formed like a long purse, with a round hole for entrance near the top. It was made chiefly of moss, down, and lint of plants, and lined with some feathers. The eggs, six in number, were pure white."

Rock Wren. (*Salpinctus obsoletus.*)

Fig. 5.

This large species of North American Wren was first discovered by Major Long's exploring party, near the Arkansas river, in the neighborhood of the Rocky Mountains. It is said to inhabit sterile districts devoid of trees. Nuttall says: "Among these arid and bare hills of the central table-land they were quite common. The old ones were feeding and watching a brood of four or five young, which, though fully grown, were protected and cherished with the querulous assiduity so characteristic of the other Wrens. They breed under the rocky ledges, where we so constantly observed them, beneath which they skulk at once when surprised, and pertinaciously hide in security, like so many rats. Indeed, so suddenly do they disappear among the rocks, and remain so silent in their retreat, that it is scarcely possible to believe them beneath your feet, till after the lapse of a few minutes you hear a low, cautious chirp, and the next instant, at the head of the ravine, the old female probably again appears, scolding and jerking in the most angry attitudes she is capable of assuming."

"This species," says Coues, "is especially characteristic of the interior mountainous regions of the West, although, to the southward at least, it reaches the Pacific Coast. It is reported from various parts of California, from Cape St. Lucas, and from Mexico. Mr. Allen found it in Colorado, Mr. Merriam in Utah, where it was abundant about White Sulphur Springs, Mr. Holden in Wyoming, and Dr. Hayden states that it is numerous in the 'bad lands.' I frequently saw it in Upper Arizona, in rocky fastnesses, where its peculiar song always attracted attention. Dr. Cooper states that a nest from a wood-pile on the Upper Missouri was composed of a loose flooring of sticks, lined with a great quantity of feathers, and contained nine eggs of a reddish color, thickly spotted with chocolate. He also found nests at San Diego, under tiled roofs, containing young, in May. According to Mr. Holden, the nest is merely a few sticks and bits of moss put carelessly together: 'One was placed under a rock as large as a dog-house, and in it were four young ones, which scampered off while I was removing the rock.' The eggs are four to eight in number, measuring 0.72 by 0.60 inches, being thus much rounded. The shell is white, of crystal purity and smoothness, very sparingly sprinkled with minute dots of reddish-brown, chiefly aggregated at, or in a wreath around, the larger end; but a few other specks are commonly scattered over the whole surface."

Bewick's Wren. (*Thryothorus bewickii.*)

Fig. 6.

This beautiful little species is closely allied to the Carolina or Mocking Wren. It was first discovered and figured by Audubon Its song consists of a low twitter. Its habits and characteristics are somewhat similar to other Wrens.

Audubon says: "For several days, during which I occasionally saw it, it moved along the bars of the fences, with the tail generally erect, looking from the bar on which it stood toward the one next above, and caught spiders and other insects, as it ran along from one panel of the fence to another in quick succession, now and then uttering a low *twitter*, the only sound which I heard it emit. It occasionally hopped sidewise, now with its head toward me, and again in the contrary direction, at times descending to the ground to inspect the lower bar, but only for a few moments, and, as if about to sing, would for an instant raise its head and lower its tail, but without giving utterance to any musical notes. In shape, color, and movements, it nearly resembles the great Carolina Wren and the House Wren. It has not, however, the quickness of motion, nor the liveliness, of either of these birds."

The Grey-crowned Finch. (*Leucostiote tephrocotis.*)

Fig. 7.

Up to within a few years, this species was considered very rare. According to Dr. Hayden's ornithological researches, it was discovered to be abundant in the Wind River Mountains, where numerous specimens were procured. Of their habits Mr. Holden

says: "These birds are never found here in summer—the mountains in the southwestern part of Wyoming—they come in small flocks in the coldest part of winter. Their food is small seeds and insects. I have found some with the crops so full of seeds as to distort the birds. They become very fat, and are good eating."

Mr. Trippe says: "During the winter I saw several flocks of these birds near Central City, where they were feeding in the dry gulches and about gardens, acting like Lapland Longspurs; but did not observe them elsewhere, though I looked carefully for them throughout a large extent of country. During summer and autumn the Gray-crowned Finch is common above timber-line, where it breeds, ranging higher than the Titlark, and being usually found in the vicinity of snow-fields and the frozen lakes near the summit of the range. It is rather shy in such localities, though exceedingly tame in winter; its flight is in undulating lines, like the Crossbill's, and the only note I have heard it utter is a kind of 'churr,' like the call of the Scarlet Tanager. In the latter part of September small flocks, composed of one or two families, may be seen together; and still later in the season they gather into large flocks. They stay above timber-line till the close of October or the middle of November, being much hardier than the Titlark; and only descend when driven away by the furious winter storms.

. . . Since the above was penned, great flocks of the Gray-crowned Finch have appeared near Idaho Springs. In their habits and actions they are very similar to the *Plectrophanes*. They are perpetually roving from place to place; feed upon the seeds of weeds and grasses; and are never at rest for more than a moment at a time, constantly whirling about in close, dense, masses, like so many Longspurs."

Rocky Mountain or Arctic Blue Bird. (*Sialia arctica.*)

Fig. 8.

According to Coues:

"The original specimen of this beautiful species came from Fort Franklin, Great Bear Lake, as described and figured in the Fauna Boreali-Americana. Dr. Richardson observes that it is merely a summer visitor to the Fur Countries. At the other extreme of its range, about the Mexican border, which, so far as known, it does not pass, it is observed only in winter. In the mountainous portions of Arizona I found it rather uncommon, and only late in the autumn, or in winter; I do not think it breeds in the vicinity of Fort Whipple, though probably it does so in the higher mountains not far distant. Dr. Cooper noticed its occurrence in numbers about San Diego, in the severe winter of 1861–'62; they remained until February, and suddenly disappeared. 'They were at that time,' he continues, 'sitting perched on the low weeds and bushes about the plains, often quite a flock together, and some constantly hovering like blue butterflies over the grass, at a height often of fifty feet, on the watch for insects.' This accords perfectly with my own observations. The same naturalist found the birds numerous, with lately fledged young, about Lake Tahoe and the summits of the Sierra Nevada, at an elevation of over 6,000 feet. Colonel McCall speaks of their breeding as far south as Santa Fe, New Mexico, in boxes provided for them, just like our eastern species. Mr. Holden found it using old Woodpecker holes, and, in one instance, four eggs were deposited in an old car-wheel. The habits of all the species of *Sialia* are essentially similar, however differently they may be carried out in detail according to circumstances. The eggs of all are alike, pale blue in color, and can not be distinguished with any certainty. Those of the present species measure 0.90 to 0.95 in length by about 0.70 in breadth, being thus rather larger than those of *S. sialis*, which average about 0.85 by 0.68."

Bohemian Waxwing, Waxen Chatterer, Waxwing, or Common Silk-tail. (*Ampelis garrulus.*)

Fig. 9.

This species has a wide distribution over the globe. It shows quite a preference for the colder portions of the whole northern hemisphere. In the Northern States, in winter, stragglers are occasionally met with, and at times they are to be seen gathered in large flocks.

"The Common Silk-tail is an inhabitant both of Northern Europe and of North America, but is found only occasionally in some parts of Asia, being replaced in that continent by its Japanese congener, the *Bombycilla phoenicoptera*, . . . (while in America the Waxwing is more numerously met with). In the northern portions of Europe, birch and pine forests constitute its favorite retreats, and these it seldom quits, except when driven by unusual severity of weather, or by heavy falls of snow, to seek refuge in more southern provinces. Even in Russia, Poland, and Southern Scandinavia it is constantly to be seen throughout the entire winter; indeed, so rarely does it wander to more southern latitudes that in Germany it is popularly supposed to make its appearance once in seven years. On the occasion of these rare migrations, the Silk-tails keep together in large flocks, and remain in any place that affords them suitable food until the supply is exhausted. Like most other members of the feathered creation inhabiting extreme climates, these birds are heavy and indolent, rarely exerting themselves except to satisfy their hunger, and appearing unwilling to move even to a short distance from their usual haunts. With their companions they live in uninterrupted harmony, and during their migrations testify no fear of man, frequently coming down to seek for food in the villages and towns they pass over, without apparently regarding the noisy bustle of the streets. Even during their winter journeyings they settle frequently, and pass the entire day indolently perching in crowds upon the trees, remaining almost motionless for some hours together, only descending in the morning and evening to procure berries, in search of which they climb from branch to branch with considerable dexterity. Their flight is light and graceful, being effected by very rapid strokes of the wings. Upon the ground they move with difficulty, and rarely alight upon its surface, except when in search of water. Their call-note is a hissing, twittering sound, very similar to that produced by blowing down the barrel of a key. The song, though monotonous and gentle, is uttered by both sexes with so much energy and expression as to produce a pleasing effect, and may be generally heard throughout the entire year. Insects unquestionably constitute the principal food of the Waxwing during the warmer months, but in winter they subsist mainly upon various kinds of berries. So voracious is this species that, according to Naumann, it will devour an amount of food equal to the weight of its own body in the course of twenty-four hours. When caged, it sits all day close to its eating trough, alternately gorging, digesting, and sleeping, without intermission. Until the last few years we were entirely without particulars as to the incubation of the Waxwing, and have to thank Wolley for the first account of the nest and eggs. This gentleman, who visited Lapland in 1857, determined not to return to England until he had procured the long-desired treasure, and, after great trouble and expense, succeeded in collecting no fewer than six hundred eggs. All the nests discovered were deeply ensconced among the boughs of pine trees, at no great height from the ground; their walls were principally formed of dry twigs and scraps from the surrounding branches; the central cavity was wide, deep, and lined with blades of grass and feathers. The brood consists of from four to seven, but usually of five eggs, which are laid about the middle of June; the shell is bluish or purplish-white, sparsely sprinkled with brown, black, or violet spots and streaks, some of which take the form of a wreath at the broad end. The

Waxwing easily accustoms itself to life in a cage, and in some instances has been known to live for nine or ten years in confinement, feeding principally upon vegetables, salad, white bread, groats, or bran steeped in water."—*Brehm.*

Coues says:

"The singularly erratic movements of this species are well known, but not so easily accounted for, since the exigencies of the weather and scarcity of food do not seem sufficient, in every instance, to explain the case. It seems, however, most nearly parallel with that of the Wild Pigeon. The occasional occurrence of the bird in small numbers in winter, through New England and the other Atlantic States, as far as Philadelphia, is noticed in the records above quoted. The only Eastern United States region where it seems to be of regular occurrence in winter is the vicinity of the Great Lakes. Mr. T. McIlwraith reports (Proc. Ess. Inst. v, 1866, 87) that at Hamilton, Canada West, it is a winter visitant, 'sometimes appearing in vast flocks, and not seen again for several years.' We also have advices from Kansas, and from the Colorado valley, latitude 35°. We have no United States record from the Pacific coast, but Dr. Cooper gives an interesting note in his later work, above quoted. 'It is probable,' he says, 'that they reside, during summer, about the summits of the loftiest mountains of the interior ranges, if not in the Sierra Nevada, as I have seen them in September at Fort Laramie, and the specimen obtained on the Colorado was a straggler from some neighboring mountains. It appeared January 10th, after a stormy period, which had whitened the tops of the mountains with snow, and was alone, feeding on the berries of the mistletoe, when I shot it.'"

American Mealy Redpoll, Mealy Redpoll Linnet. (*Ægiothus canescens.*)

Fig. 10.

This is one of our rare species. In summer it is met with in the Arctic regions. Their note is somewhat similar to the Lesser Redpoll Linnet, but more clear and distinct. Nuttall says:

"They are full of activity and caprice while engaged in feeding, making wide circles and deep undulations in their flight. Like Titmice also, they frequently feed and hang to the twigs in reversed posture."

"In their habits," says Audubon, "I could see no difference between them and the common Redpoll; but their notes, although in some degree similar, as is usually the case in all birds of the same family, differed sufficiently to induce me to believe that this mealy-colored bird is quite distinct from the species above mentioned, although very nearly allied to it. I wish it were in my power to describe this difference of modulation, which seems to me still vibrating in my ear, but I can not, and therefore must be content with assuring you that the notes of the two birds are as nearly the same, and yet as distinct, as those of the American Gold-finch and the European bird of the same name. Removing from one spot to another with the peculiar activity and capriciousness of the Linnet family, they would fly from one portion to another of the wild natural meadow on which I watched them nearly an hour before I shot them; alight here and there, peck at the berries a few moments, and suddenly, as if affrighted, rise, perform various wide and circling flights in deep undulations, and at once alighting, repose for a short while. Like Titmice, and often with downward inclined head, they fed, chattered to each other, and then, resting for an instant, plumed themselves."

Arctic Towhee, Arctic Spotted Towhee, or Arctic Ground Finch. (*Pipilo arcticus.*)

Fig. 11.

This pretty species of Finch is mostly confined to the Rocky Mountains. It is retired, but not a shy or distrustful bird in its habits.

"We found this familiar bird," says Nuttall, "entirely confined to the western side of the Rocky Mountains. Like the common Towhee, it is seen to frequent the forests amidst bushes and thickets, where, flitting along or scratching up the dead leaves, it seems intent on gaining a humble livelihood. It is, at the same time, much more shy than the common kind, when observed flying off or skulking in the thickest places, where it is with difficulty followed. In a few minutes, however, the male, always accompanying his mate, creeps out, and at first calls in a low whisper of recognition, when, if not immediately answered, he renews his plaintive pay, pay, or pay, payay, until joined by her; but, if the nest be invaded, he comes out more boldly, and reiterates his complaint while there remains around him the least cause of alarm. When undisturbed, during the period of incubation, he frequently mounts a low bush in the morning, and utters, at short intervals, for an hour at a time, his monotonous and quaint warble, which is very similar to the notes of the Towhee; but this latter note (towhee), so often reiterated by our humble and familiar Ground Robin, is never heard in the western wilds, the present species uttering in its stead the common complaint, and almost mew of the Cat Bird. On the 14th of June I found the nest of this species, situated in the shelter of a low shrub on the ground, in a depression scratched out for its reception. It was composed of a rather copious lining of clean wiry grass, with some dead leaves beneath as a foundation; the eggs were four, newly hatched, very closely resembling those of the Towhee, thickly spotted over, but more so at the larger end, with very small, round, and numerous reddish-chocolate spots. As usual, the pair showed great solicitude about their nest, the male in particular approaching boldly to scold and lament at the intrusion."

Lincoln's Pinewood Finch, Lincoln's Sparrow, Lincoln's Finch. (*Melospiza lincolnii.*)

Fig. 12.

This is one of our northern species, first discovered by Audubon in Labrador. Their habits and characteristics are very similar to that of the Song Sparrow. It is most usually met with mounted on the topmost twig of some tree or tall shrub near streams in the sheltered valleys of that cold and desolate region. There it gives full play to its song for hours at a time; then again it is in the midst of a thicket, hopping from branch to branch, until it gets to the ground in search of its fare of insects and berries. Its flight is low and rapid. As soon as it discovers that it is being watched, it takes to wing, and moves off swiftly to a distant retreat.

"I found it," says Audubon, "mostly near streams, and always in the small valleys, guarded from the cold winds so prevalent in the country, and which now and then nip the vegetation and destroy many of the more delicate birds. Like any other species of the genus, Lincoln's Finch is petulant and pugnacious. Two males often chase each other until the weaker is forced to abandon the valley and seek refuge in another. On this account I seldom see more than two or three pairs in a tract seven or eight miles in extent."

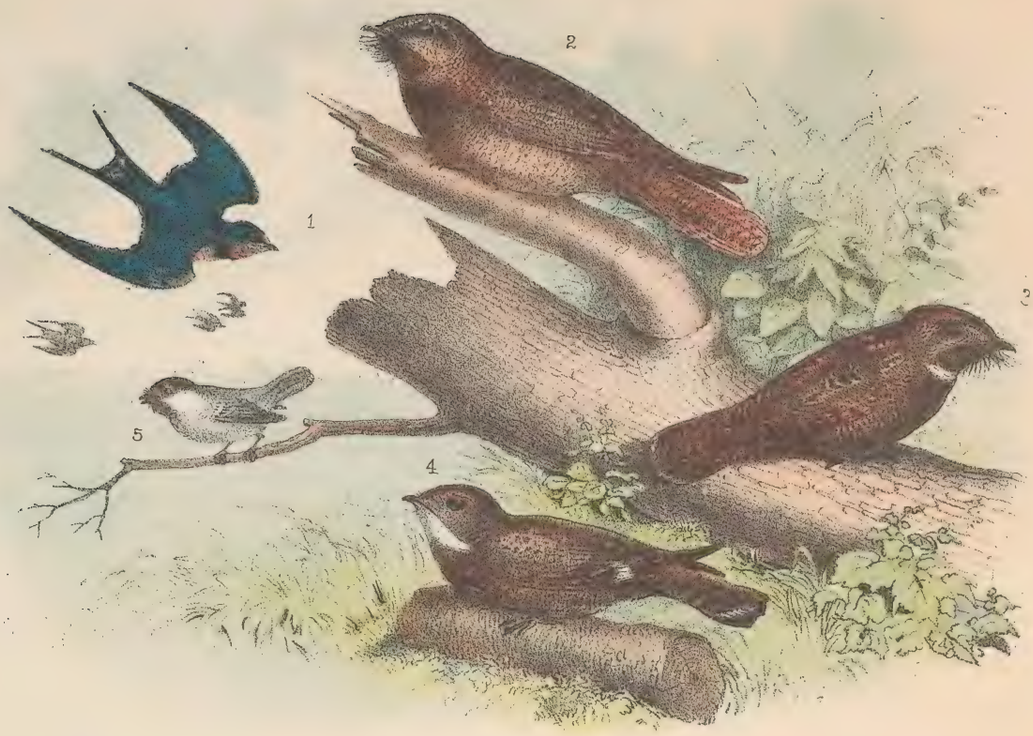
PLATE LXXII.

American Barn Swallow, Barn Swallow. (*Hirundo horreorum.*)

Fig. 1.

Swallows have been observed as long back as the time of Anacreon, and in his thirty-third ode he describes it as follows:

"Lovely Swallow, once a year,
Pleased you pay your visit here;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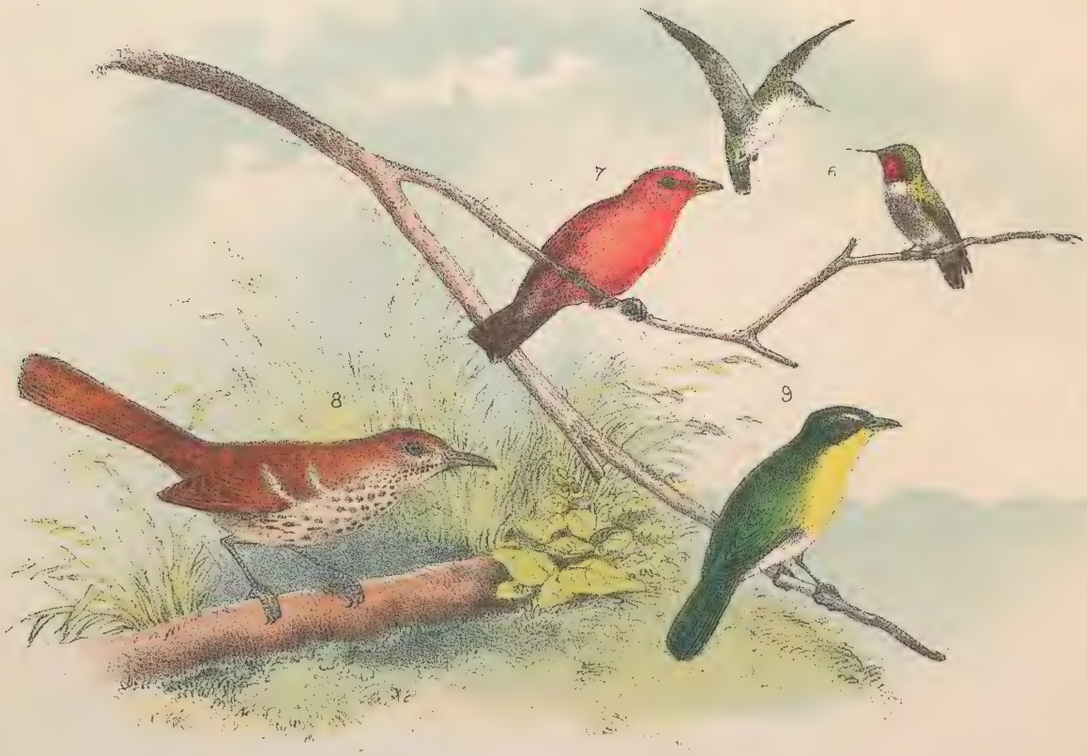
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When our clime the sunbeams gild,
Here your airy nest you build;
And, when bright days cease to smile,
Fly to Memphis or the Nile."

About the middle of February, or early in March, this species is usually met with in Florida and Georgia. About the beginning of April they are seen in the Middle States. Their migrations extend as far as Alaska, Greenland, and the West Indies. The Barn Swallow is very rapid when on the wing, which enables it to pass promptly from one country to another, to more favorable climates. Professor R. A. Oakes, a well-known writer on the science of Ornithology, publishes a very interesting account of "The Swallow in Myth and Song," from which we take the following:

"From his familiar intercourse with the human race, the swallow has become endowed with every kindly quality. The Scandinavians call him the bird of consolation. In that bitter agony, through which the sins of the world have become as white as snow, they claim the Swallow came and spread his wings beneath the cross to lighten the load of the Savior, and when the last great suffering came which caused the very earth to shudder and hide its face in darkness, the loving bird hung with pity over the convulsed brow and softly sung—Salva! Salva! Salva!

"Pliny, who accords to all animals the possession of faculties akin to those of man, tells us that the Swallows refuse to visit Bizya, because of the crime of Tereus, and that they never enter the houses of Thebes, because that city had been so often captured. Every year, he adds, near the city of Coptos, on an island sacred to Isis, they strengthen the angular corners with chaff and straw, thus effectually fortifying it against the river. Night and day they persevere in this labor, and many work so unremittingly that they perish.

"Possibly this work is done in honor of the Egyptian goddess who once assumed their lovely guise. In his paper on Isis and Osiris, Plutarch, the most charming of essayists, tells us that after Typhon had treacherously enticed Osiris into the curious ark, had fastened the cover, making it a living tomb, and had thrown it into the sea; after the sea had cast it back upon the coast of Byblos, and the heath in which his coffin lodged, had grown into a beautiful tree, inclosing it within the trunk; after the king, admiring the unusual size of the plant, had cropped its bushy parts and made it the support of the roof of his house, then Isis came, and, by tender endearments, obtained access to the king's dwelling. Thus living once more in the hidden presence of her beloved, she would turn herself into a Swallow, and unceasingly fly around the imprisoned coffin, moaning his misfortune and her own sad fate.

"So when Ulysses, after many years' wandering, returns weary and foot-sore to his home to only find it thickly beset with suitors for faithful Penelope's hand, Athenia encourages him to do battle, and, in the words of Homer—

'Willing longer to survey
The sire and son's great act, withheld the day,
By further toils decreed the brave to try,
And level poised the wings of victory;
Then with a change of form eludes the sight,
Perch'd like a Swallow on a rafter's height,
And unperceived enjoys the rising fight.'

"A Swallow chirped around the head of Alexander the Great while he slept, and awakened him to warn him of the machinations which his family were plotting against him.

"St. Francis Assissi, the purest and loveliest of all the later saints, when preaching at Alviane, could not make himself heard from the twittering of the Swallows which at the time were building their nests; pausing, therefore, in his sermon, he said: 'My sisters, you have talked enough; it is time that I had my turn. Be silent, and listen to the word of God!' And they were silent immediately.

"Of the musical powers of the Swallow, not much can be said in praise. Gilbert White, whose delightful book is full of notes on the Swallow, tells us that he 'is a delightful songster, and in soft sunny weather sings both perching and flying on trees in a kind of concert, and on chimney-tops.' The Greeks, however, had a proverb advising men not to harbor Swallows as they were babblers. So in the fable, when the Swallows boasted to the Swans of their twittering constantly for the benefit of the public, they were answered that it was better to sing little and well to a chosen few than much and badly to all. Virgil, in the fourth Georgic, rather slightingly designates them as the 'chattering Swallows,' and Isaiah, as if reproving himself, says: 'Like a Swallow do I chatter.' A son of the Greek comedian, Aristophanes, whose name was Necostratus, and who was also a devotee of the muses, thus sings of them—

'If in prating from morn till night,
A sign of our wisdom it be,
The Swallows are wiser by right,
For they prattle much faster than we.'

"Against this rhyme of the old Greek poet let us place this verse of one of our charming modern singers, Mr. C. G. Leland:

'Oh, spring bird of the early flowers, first minstrel of the year,
Fast darting herald of the morn—right welcome art thou here.
Thou art the truest troubadour, for who to-day doth sing
So constantly of winter past—so oft of coming spring.'

"Shakespeare, the sublimest master of all, has painted the Swallow in such brilliant colors that all other pictures seem tame beside it:

'The guest of summer,
The temple-hunting martlet, does approve
By his loved masonry, that heaven's breath
Smells wooingly here. No jutty, frieze,
Buttress, nor coign of vantage, but this bird
Hath made its pendent bed, and procreant cradle.
Where they most breed and haunt, I have observed
The air is delicate.'

"In all weather folk-lore the Swallow plays a conspicuous part. Spenser tells us—

'When Swallow peeps out of her nest,
The cloudy welkin cleareth.'

"In Gay's Pastoral we find—

'When Swallows fleet soar high and sport in air,
He told us that the welkin would be clear.'

"A sign of rain, Smart, in his Hop Garden, tells us, is when

'The Swallows, too, their airy circuits wave,
And, screaming, skim the brook.

"As during damp weather the insects on which the Swallows feed hug the earth or flutter low over streams, while the warm sunshine and the clear bright atmosphere tempt them to more extended journeys, these prognostications may be taken as a pretty sure guide. It was because they thus unremittingly pursued their prey, that Pythagoras, who believed in the transmigration of souls, refused them shelter beneath his roof. So Chaucer dismisses our bird in this doubtful couplet—

'The Swallow, morder of bees smale,
That maken honey of flouers fressh of hewe.'

"Of the intelligence of this bird all observers in natural history furnish ample record. Considering the size of his brain his mental resources are wonderful. M. Dupont de Nemours gives an account of one 'which had unhappily slipped its foot into a slip-knot of pack-thread, the other end of which was attached to a spout of the College of Four Nations. Its strength was almost exhausted; it hung at the end of the thread, uttered cries, and sometimes raised itself as if making efforts to fly away. All the Swallows of the large basin between the bridges of the Tuileries and the Pont Neuf, and perhaps from places more remote, had assembled to the number of several thousand. Their flight was like a cloud; all uttered a cry of pity and alarm. After some hesitation, and a tumultuous counsel, one of them fell upon a device for delivering their companion, communicated it to the rest, and began to put it into execution. Each took his place; all those who were at hand went in turn, as if in the sport of running at the ring, and, in passing, struck the thread with their bills. These efforts, directed at one point, were continued every second, and even more frequently. Half an hour was passed in this kind of labor before the thread was severed and the captive restored to liberty.' Linnæus, the great naturalist, gives an account of a Sparrow taking up its abode in the nest of a Swallow, and resisting every attempt, not only of its true occupant, but of its companions, to oust the intruder. After vain attempts, during which the Sparrow only intrenched himself the more securely, the Swallows resorted to new measures. They commenced bringing mud in their bills, and gradually walled up the entrance to the nest, thus burying their enemy in a living tomb. Many like instances have been recorded by ornithologists who have lived since the days of the great Swedish naturalist.

"Jesse, in his Gleanings from Natural History, tells of a Swallow's nest having been blown down in a severe storm, of a com-

pany of these birds coming to the rescue of the distressed pair, and in a few hours repairing the mischief. In 'Science Gossip,' for 1873, Rev. P. Skelton furnishes the following amusing anecdote. He writes:

"'I have entertained a great affection and some degree of esteem for Swallows ever since I saw a remarkable instance of their sense and humor played upon a cat which had, upon a fine day, seated herself on the top of a gate-post, as if in contemplation, when ten or a dozen Swallows, knowing her to be an enemy, took it into their heads to tantalize her in a manner which showed a high degree not only of good sense, but of humor. One of these birds, coming from behind her, flew close by her ear, and she made a slap at it with her paw, but it was too late. Another Swallow in five or six seconds did the same, and she made the same unsuccessful attempt to catch it. This was followed by a third, and so on to the number just mentioned; and every one as it passed seemed to set up a laugh at the disappointed enemy, very like the laugh of a young child when tickled. The whole number following one another at the distance of about three yards, formed a regular circle in the air, and played it off like a wheel at her ear for nearly an hour, not seemingly at all alarmed at her, who stood within six or seven yards of the post. I enjoyed this sport, as well as the pretty birds, till the cat, tired out with disappointment, quitted the gate-post as much huffed as I had been diverted.'

"In the same periodical, Mr. Lamerque, of Dover, contributes a similar anecdote. He was attracted by the screaming of a pair of Swallows, who were rearing a brood under an archway. They were making rapid swoops at a cat, which, for a time, struck at them with her paw, until, becoming frightened, she crouched down and bobbed her head in the most ludicrous manner at each attack. The observer then took the cat up and placed her immediately under the nest, at which the birds only became the more daring, and were reinforced by another pair, who attacked the cat with so much fury, that she finally crouched in abject terror between Mr. Lamerque's feet.

"Gilbert White says that 'the Swallow, probably the male bird, is the excebitor to house-martins and other little birds, announcing the approach of birds of prey; for, as soon as a hawk appears, with a shrill alarming note he calls all the Swallows and Martins about him, who pursue in a body, and buffet and strike their enemy, till they have driven him from the village, darting down from above on his back, and rising in a perpendicular line in perfect security. This bird will sound the alarm and strike at cats when they climb the roofs of houses, or otherwise approach the nest.' Boerhave records an instance of a Swallow returning to her nest, and finding the building under whose eaves it was built on fire, flying to the rescue of her young at the expense of her own life.

"Madame Guyon found in the Swallow, as in all things, spiritual consolation:

'I am fond of the Swallow; I learn from her flight,
Had I skill to improve it, a lesson of love;
How seldom on earth do we see her alight—
She dwells in the skies, she is ever above.'

"So Cowley, and Dryden, and Hunti's and Thomson, and endless weavers of rhyme have traced the flight of the Swallow through all the web and woof of their cloth of gold.

"In Longfellow's Birds of Passage may be found the pretty legend of the Emperor Charles of Spain and the Swallow who built her mud palace upon the roof of his tent. After the beleaguered town had surrendered to the great commander, and the victorious army moved to other quarters, his tent still remained unmolested:

'So it stood there all alone,
Loosely flapping, torn and tattered,
Till the brood was fledged and flown,
Singing o'er those walls of stone
Which the cannon-shot had shattered.'

"The Swallow, in myth and song, has a flight so long, so bright, so joyous, that not even a folio can compass it. Ruskin, in Love's Meinie, in her praise, becomes inspired with all the eloquence of his earlier and better days. I have gathered but a handful of the praises of which in all literatures she is made the recipient. Out of the dim past she sails down upon us an object of beauty and of love. Among the ancient Hebrews she was 'deror,' the bird of freedom. In every age she has personified loyalty, truth, and beauty. At her coming the universal heart of man has expanded. Superstition everywhere has thrown around her its protecting arm. Wherever the human race have erected habitations the Swallow has deserted its old nesting-place to find a home beneath the same roof. The lessons she has taught—the examples she has set—have been those of fidelity, of trust, of affection. For thousands of years her mission has been one of pure mercy to man. She is the type of all that is beautiful in nature—of the first breath of spring—of the mature glories of summer. Into her life no winter enters. Companion of the flowers, with them she is alike welcome. Confiding and graceful, she fully returns the love which mankind has lavished upon her, and with a fidelity more than human, since it admits of no alienation, returns year by year to bless the roof which first sheltered her."

Chuck-Will's-Widow, Carolina Goatsucker. (*Antrostomus carolinensis.*)

Fig. 2.

This noisy little night bird is chiefly confined to the Atlantic and Gulf States. It derives its name from the similarity of its notes to the articulated sound of the word 'chuck-will's-widow.' This singular combination may be heard soon after the setting of the sun, and, again, before dawn, in the morning. At each time it is continued, at short intervals, in the same strain, for several hours. Its pursuit of food is carried on entirely by night.

Nuttall says: "In the day, like some wandering spirit, it retires to secresy and silence, as if the whole had only been a disturbed dream. In the evening, their singular call, of 'chuck-will's-widow,' may be heard for half a mile, its tones being slower, louder, and more full than those of the Whip-poor-will. This species is particularly numerous in the vast forests of the Mississippi, where, throughout the evening, its echoing notes are heard in the solitary glens, and from the surrounding and silent hills, becoming almost incessant during the shining of the moon; and at the boding sound of its elfin voice, when familiar and strongly reiterated, the thoughtful, superstitious savage becomes sad and pensive. Its flight is low, and it skims only a few feet above the surface of the ground, frequently settling on logs and fences, from whence it often sweeps around in pursuit of flying moths and insects, which constitute its food. Sometimes they are seen sailing near the ground, and occasionally descend to pick up a beetle, or flutter lightly round the trunk of a tree in quest of some insect crawling upon the bark. In rainy and gloomy weather, they remain silent in the hollow log which affords them and the bats a common roost and refuge by day. When discovered in this critical situation, and without the means of escape, they ruffle up their feathers, spread open their enormous mouths, and utter a murmur almost like the hissing of a snake, thus endeavoring, apparently, to intimidate their enemy, when cut off from the means of escape. This species, like most others, also lays its eggs, two in number, merely on the ground, and usually in the woods: they are yellowish-white, sprinkled with dark bluish-purple and brown specks, oval, and rather large; if they be handled, or even the young, the parents, suspicious of danger, remove them to some other place. As early as the middle of August, according to Audubon, they retire from the United States, though some winter in the central parts of East Florida."

Wilson says: "This singular genus of birds, formed to subsist on the superabundance of nocturnal insects, are exactly and surprisingly fitted for their peculiar mode of life. Their flight is low, to accommodate itself to their prey; silent, that they may be the better concealed, and sweep upon it unawares; their sight, most acute in the dusk, when such insects are abroad; their evolutions, something like those of the Bat, quick and sudden; their mouths, capable of prodigious expansion, to seize with more certainty, and furnished with long, branching hairs, or bristles, serving as palisadoes to secure what comes between them. Reposing so much during the heats of day, they are much infested with vermin, particularly about the head, and are provided with a comb on the inner edge of the middle claw, with which they are often employed in ridding themselves of these pests, at least when in a state of

captivity. Having no weapons of defense, except their wings, their chief security is in the solitude of night, and in their color and close retreats by day; the former so much resembling that of dead leaves of various hues, as not to be readily distinguished from them even when close at hand."

Night-Jar, Whip-poor-will. (*Antrostomus vociferus.*)

Fig. 3.

The Whip-poor-will, so called from its peculiar cry, is a well-known nocturnal bird, and is rarely seen. It is an abundant species, and may be met with in the eastern parts of the United States.

"This remarkable and well-known nocturnal bird," says Nuttall, "arrives in the Southern States in March, and in the Middle States about the close of April or the beginning of May, and proceeds, in his vernal migrations, along the Atlantic States, to the center of Massachusetts, being rare and seldom seen beyond the latitude of 43°; and yet, in the interior of the continent, according to Vieillot, they continue as far as Hudson's Bay, and even heard, as usual, by Mr. Say, at Pembino, in the high latitude of 49°. In all this vast intermediate space, as far south as Natchez, on the Mississippi, and the interior of Arkansas, they familiarly breed and take up their temporary residence. Some also pass the winter in the interior of East Florida, according to Audubon. In the eastern part of Massachusetts, however, they are uncommon, and always affect sheltered, wild, and hilly situations, for which they have in general a preference. About the same time that the sweetly echoing voice of the Cuckoo is first heard in the north of Europe, issuing from the leafy groves, as the sure harbinger of the flowery month of May, arrives among us, in the shades of night, the mysterious 'Whip-poor-will.' The well-known saddening sound is first only heard in the distant forest, re-echoing from the lonely glen or rocky cliff; at length, the oft-told solitary tale is uttered from the fence of the adjoining field or garden, and sometimes the slumbering inmates of the cottage are serenaded from the low roof or from some distant shed. Superstition, gathering terror from every extraordinary feature of nature, has not suffered this harmless nocturnal babbler to escape suspicion, and his familiar approaches are sometimes dreaded as an omen of misfortune."

"In the lower part of the State of Delaware I have found these birds troublesomely abundant in the breeding season, so that the reiterated echoes of 'whip, whip-poor-will, whip-peri-will,' issuing from several birds at the same time, occasioned such a confused vociferation as at first to banish sleep. This call, except in moonlight nights, is continued usually till midnight, when they cease, until again aroused, for a while. At the commencement of twilight the first and last syllables of their brief ditty receive the strongest emphasis, and now and then a sort of guttural cluck is heard between the repetitions, but the whole phrase is uttered in a little more than a second of time. But if superstition takes alarm at our familiar and simple species, what would be thought by the ignorant of a South American kind, large as the Wood-owl, which, in the lonely forests of Demerara, about midnight breaks out, lamenting like one in deep distress, and in a tone more dismal even than the painful hexachord of the doubtful Ai. The sounds, like the expiring sighs of some agonizing victim, begin with a high, loud note, 'ha, ha, ha, ha, ha! ha! ha!'—each tone falling lower and lower, till the last syllable is scarcely heard, pausing a moment or two between this reiterated tale of seeming sadness.

"Four other species of the Goatsucker, according to Waterton, also inhabit this tropical wilderness, among which also is included our present subject. Figure to yourself the surprise and wonder of the stranger, who takes up the solitary abode for the first night amidst these awful and interminable forests, when at twilight he begins to be assailed familiarly with a spectral equivocal bird, approaching within a few yards, and then accosting him with 'who-are-you, 'who-'who, 'who-are-you?' Another approaches, and bids him, as if a slave under the lash, 'work-away, work-work-work-away.' A third mournfully cries, 'willy-come-go! willy-willy-willy-come-go!' And as you get among the high lands, our old acquaintance vociferates, 'whip-poor-will, 'whip-'whip-'whip-poor-will!' It is therefore not surprising that such unearthly sounds should be considered in the light of supernatural forebodings issuing from specters in the guise of birds. Although our Whip-poor-will seems to speak out in such plain English, to the ears of the aboriginal Delaware its call was 'wecoális,' though this was probably some favorite phrase or interpretation, which served it for a name. The Whip-poor-will, when engaged in these nocturnal rambles, is seen to fly within a few feet of the surface in quest of moths and other insects, frequently, when abundant, alighting around the house. During the day they retire into the darkest woods, usually on high ground, where they pass the time in silence and repose, the weakness of their sight by day compelling them to avoid the glare of the light.

"The female commences laying about the second week in May in the Middle States; considerably later in Massachusetts. She is at no pains to form a nest, though she selects for her deposit some unfrequented part of the forest, near a pile of brush, a heap of leaves, or the low shelving of a hollow rock, and always in a dry situation. Here she lays two eggs, without any appearance of an artificial bed. They are of a dusky bluish-white, thickly blotched with dark olive. This deficiency of nest is amply made up by the provision of nature, for, like Partridges, the young are soon able to run about after their parents, and, until the growth of their feathers, they seem such shapeless lumps of clay-colored down, that it becomes nearly impossible to distinguish them from the ground on which they repose. Were a nest present in the exposed places where we find the young, none would escape detection. The mother, also faithful to her charge, deceives the passenger by prostrating herself along the ground with beating wings, as if in her dying agony. The activity of the young and old in walking, and the absence of a nest, widely distinguishes these birds from the Swallows, with which they are associated. Their food appears to be large moths, beetles, grasshoppers, ants, and such insects as frequent the bark of decaying timber."

Night-hawk, Bull-bat, Pisk, Piramidig. (*Chordeiles virginianus.*)

Fig. 4.

This species, in the spring and fall, during the migrations, is abundant in most all parts of North America.

"Bonaparte remarks," says Brewer, "that the Night-hawks are among the Swallows what the Owls are among the *Falconidæ;* and, if we may be allowed the expression, the first has more of the hirundine look than the others. The whole plumage is harder, the ends of the quills are more pointed, the tail is forked, and the rectus wants the strong array of bristles which we consider one of the essentials in the most perfect form of *caprimulgus.* We may here remark (although we know that there are exceptions), that we have generally observed in those having the tail forked, and consequently with a greater power of quick flight and rapid turnings, that the plumage is more rigid and the flight occasionally diurnal. This is borne out also in our present species, which play 'about in the air, over the breeding-place, even during the day;' and, in their migrations, 'may be seen almost everywhere, from five o'clock until after sunset, passing along the Schuylkill and the adjacent shores.'

"The truly night-feeding species have the plumage loose and downy, as in the nocturnal Owls; the wings more blunted, and the plumules coming to a slender point and unconnected; the tail rounded, and the rectus armed, in some instances, with very powerful bristles. Their organs of sight are also fitted only for a more gloomy light. They appear only at twilight, reposing during the

day among furze of brake, or sitting in their own peculiar manner on a branch; but if inactive amidst the clearer light, they are all energy and action when their own day has arrived."

Toward the close of April the Night-Hawk arives in the Middle States, and early in May they are first seen near the sea-coast of Massachusetts, which at all times appears to be a favorite resort. In the interior of the continent they penetrate as far as the sources of the Mississippi, the Rocky Mountains, and the territory of Oregon; they are likewise observed around the dreary coasts of Hudson's Bay, and the remotest Arctic islands, breeding in the whole intermediate region, to the more temperate and elevated parts of Georgia.

They are now commonly seen toward evening, in pairs, sailing round in sweeping circles, high in the air, occasionally descending lower to capture flying insects, chiefly of the larger kind, such as wasps, beetles, and moths. About the middle of May, or later, the female selects some open spot in the woods, the corner of a corn-field, or dry, gravelly knoll, on which to deposit her eggs, which are only two, and committed to the bare ground, where, however, from the similarity of their tint with the soil, they are, in fact, more secure from observation than if placed in a nest. They are nearly oval, of a muddy bluish-white, marked all over with touches of an umber color. Here the male and his mate reside during the period of incubation, roosting at a distance from each other on the ground, or in the neighboring trees; and, in consequence of the particular formation of their feet, like the rest of the genus, they roost or sit lengthwise on the branch. During the progress of incubation, the female is seen frequently, for some hours before nightfall, playing about in the air over the favorite spot, mounting in wide circles, occasionally propelled by alternate quick and slow vibrations of the wings, until, at times, he nearly ascends beyond the reach of sight, and is only known by his sharp and sudden squeak, which greatly resembles the flying shriek of the towering Swift. At other times, he is seen suddenly to precipitate himself downward for sixty or eighty feet, and wheeling up again as rapidly; at which instant a hollow whirr, like the rapid turning of a spinning-wheel, or a strong blowing into the bung-hole of an empty hogshead, is heard, and supposed to be produced by the action of the air on the wings or in the open mouth of the bird. He then again mounts as before, playing about in his ascent, and giving out his harsh squeak till, in a few moments, the hovering is renewed as before; and at this occupation, the male solely continues till the close of twilight. The female, if disturbed while sitting on her charge, will suffer the spectator to advance within a foot or two of her, before she leaves the nest; she then tumbles about and flutters with an appearance of lameness, to draw off the observer, when, at length, she mounts into the air and disappears. On other occasions, the parent, probably the attending male, puffs himself up, as it were, into a ball of feathers, at the same time striking his wings on the ground, and opening his capacious mouth to its full extent, he stares wildly, and utters a blowing hiss, like that of the Barn Owl when surprised in his hole. On observing this grotesque maneuver, and this appearance, so unlike that of a volatile bird, we are struck with the propriety of the metaphorical French name of "*Crapaud volans*," or Flying Toad, which it, indeed, much resembles while thus shapelessly tumbling before the astonished spectator. The same feint is also made when they are wounded, on being approached. Like some of the other species, instinctively vigilant for the safety of their misshapen and tender brood, they also, probably, convey them, or the eggs, from the scrutiny of the meddling observer. In our climate, they have no more than a single brood.

Sometimes the Night-hawk, before his departure, is seen to visit the towns and cities, sailing in circles, and uttering his squeak as he flies high and securely over the busy streets, occasionally sweeping down, as usual, with his whirring notes; and at times he may be observed even on the tops of chimneys, uttering his harsh call. In gloomy weather they are abroad nearly the whole day, but are most commonly in motion an hour or two before dusk. Sometimes, indeed, they are seen out in the brightest and hottest weather, and occasionally, while basking in the sun, find means to give chase to the *cicindeli*, *carabi*, and other entirely diurnal insects, as well as grasshoppers, with which they often gorge themselves in a surprising manner; but they probably seldom feed more than an hour or two in the course of the day. About the middle of August they begin their migrations toward the South, on which occasion they may be seen in the evening moving in scattered flocks, consisting of several hundreds together, and darting after insects or feeding leisurely as they advance toward more congenial climes.—(*Nuttall.*)

Carolina Titmouse. (*Parus carolinensis.*)

Fig. 5.

The Carolina Titmouse is a constant inhabitant of the Southern States of North America, extending from the lower parts of Louisiana, through the Floridas as far as the borders of the Roanoke river, reaching eastward as far as the State of New Jersey. In general, it is found only in the immediate vicinity of ponds and deep marshy and moist swamps; it is rarely seen during the winter in greater numbers than one pair together, and frequently singly; whereas the Black-cap Titmouse, which this species much resembles, moves in flocks during the whole winter, frequenting orchards, gardens, or the hedges and trees along the roads, entering the villages and coming to the wood-piles of the farmers; whereas the southern species is never met with in such places at any time of the year, and is at all seasons a shyer bird. The Carolina Titmouse breeds in the holes abandoned by the Brown-headed Nuthatch. It is composed of fine wool, cotton, and some fibers of plants, the whole fitted together so as to be of a uniform thickness throughout, and contains four white eggs.

Ruby-throated Humming Bird. (*Trochilus colubris.*)

Fig. 6.

The length of the body of this species is three inches and a half, and the breadth four inches and a quarter. It is found in all the eastern portions of the United States, and is abundant in summer. It is met with in the gardens hovering above flowers, upon the sweets of which, and insects, it feeds. It is pre-eminently migratory in its habits, a great portion of its life being spent in passing from North to South, and *vice versa*.

"The Ruby-throated Humming Bird," says Wilson, "makes its first appearance in Georgia, from the South, about the 23d of March. As it passes on to the northward, as far as the interior of Canada, where it is seen in great numbers, the wonder is excited how so feebly-constructed and delicate a little creature can make its way over such extensive regions of lakes and forests among so many enemies, all its superiors in strength and size; but its very minuteness, the rapidity of its flight, which almost eludes the eye, and its admirable instinct or reason are its guides and protectors. About the 25th of April it usually arrives in Pennsylvania, and about the 11th of May begins to build its nest. This is generally fixed on the upper side of some horizontal branch, not among the twigs, but where it is attached by the side to an old moss-grown trunk; others may be found fastened on a strong, rank stalk or weed in the gardens, but these cases are rare. The next, which is usually placed on a branch some ten feet from the ground, is about one inch in diameter, and as much in depth, and the outer coat of one now lying before me is formed of a small species of bluish-grey lichen, thickly glued on with the saliva of the bird, giving firmness and consistency to the whole, as well as keeping out moisture; within this are thickly-matted layers of the fine wings of certain flying seeds, closely laid together; and lastly the downy substance from the great mullein and from the stalks of the

common fern lining the whole. The two eggs are pure white, and of equal thickness at both ends.

"No sooner," says Audubon, "does the returning sun again introduce the vernal season, and cause millions of plants to expand their leaves and blossoms to his genial beams, than this Humming Bird is seen advancing on fairy wings, carefully visiting every flower-cup, and, like a curious florist, removing from each the injurious insects that would, otherwise, ere long, cause their beauteous petals to droop and decay. Poised in the air, it is observed peeping cautiously and with sparkling eye into their innermost recesses, whilst the ethereal motion of the pinions, so rapid and so light, appears to fan and cool the flowers without injury to their fragile texture, and produces a delightful murmuring sound. Its long delicate beak enters the cup of the flower, and the protruded double tongue, delicate, sensitive, and imbued with a glutinous saliva, touches each insect in succession, and draws it from its lurking-place to be instantly swallowed. All this is done in a moment, and the bird, as it leaves the flower, sips so small a portion of its liquid honey that the theft, we may suppose, is but a benefit to the flower, which is thus relieved from the attacks of its destroyers. The prairie, the fields, the orchards, and the gardens,—nay, the deepest shades of the forests, are all visited in their turn, and everywhere the little bird meets with pleasure and with food. Its gorgeous throat in beauty and brilliancy baffles all description. Now it glows with a fiery hue, and again it changes to the deepest velvet-black. The upper parts of its body are of resplendent changing green, and it throws itself through the air with a swiftness and vivacity hardly conceivable. It moves from flower to flower like a gleam of light, upward and downward, to the right and to the left. During their migrations they pass through the air in long undulations, raising themselves for some distance at an angle of about 40°, and then falling in a curve; but the smallness of their size precludes the possibility of following them further than fifty or sixty yards without great difficulty, even with a good glass. They do not alight on the ground, but settle on twigs and branches, where they move sideways in prettily-measured steps, frequently opening and closing their wings, pluming, shaking, and arranging the whole of their apparel with the utmost neatness and activity. They are particularly fond of spreading one wing at a time, and passing each of the quill-feathers through their bill in its full length, when, if the sun be shining, the wing thus plumed is rendered extremely transparent and light. They quit the twig without the slightest difficulty in an instant, and appear to be possessed of superior powers of vision, making directly toward a Marten or Blue Bird when fifty or sixty yards before them, before it seems aware of their approach.

"Where is the person who, on seeing this lovely little creature moving on humming winglets through the air, suspended as if by magic, flitting from one flower to another with motions as graceful as they are light and airy, pursuing its course and yielding new delight wherever it is seen—where is the person who, on observing its glittering fragment of a rainbow, would not pause, admire, and turn his mind with reverence toward the Almighty Creator, the wonders of whose hand we at every step discover, and of whose sublime conceptions we everywhere observe the manifestations in His admirable system of creation?"

"When morning dawns, and the blest sun again
Lifts his red glories o'er the eastern main,
Then through our woodbines, wet with glittering dews,
The flower-fed Humming Bird his way pursues,
Sips with inserted tube the honied blumes,
And chirps his gratitude as round he roams;
While richest roses, though in crimson drest,
Shrink from the splendor of his gorgeous breast.
What heavenly tints in mingling radiance fly!
Each rapid movement gives a different dye—
Like scales of burnished gold, they dazzling show;
Now sink to shade, now like a furnace glow."

Summer Red-bird. (*Pyranga æstiva.*)

Fig. 7.

This species derives its name from the fact that it is only seen in the United States from May to September. Though far from numerous, it is well known all over the country. It is an inhabitant of the extensive forests, where it is found in pairs, living a very quiet and retired life, and generally is seen perched upon the topmost branches of trees. It also frequently makes its appearance in the gardens and plantations, where it does considerable damage to fruit and flax. The Summer Red-bird makes his migrations at night. Its habits are quiet and monotonous, and it is deficient as a singing bird. The beauty of its red plumage affords quite a striking contrast to the surrounding trees. Its flight is smooth and gliding, and it seldom descends to seek its food upon the ground. Its movements among the branches are slow, and the trifling amount of animation of which it appears capable is expressed by occasionally flapping its wings or uttering its call, which consists of only two notes. It lives principally upon insects, catching them when upon the wing. The nest, which is clumsy in its construction, is usually built upon a forked branch, no care being taken for its concealment; dry roots and straw generally form the outer wall; the interior is lined with fine grass. The eggs, four or five in number, are light blue or dark greenish-blue. Both sexes unite in the duties of incubation, sitting upon the brood for the space of a fortnight, and feeding the nestlings principally upon insects.

By the beginning of June the young birds are strong enough to fly about the country, accompanying their parents, until the season for migration arrives.

Brown Thrush, Thrasher, Sandy Mocking Bird, Brown Thrasher. (*Harporhynchus rufus.*)

Fig. 8.

This is one of our well-known and favorite summer visitors. Its beautiful song may be heard in the early morning, from the tops of the trees, and is peculiar to this bird. It is described by Gentry, in his "Life-Histories of Birds," with the following syllables: "Twe-twit-l'weet, ti-weet-tur, kiiii, l'chikiiiii, tua-tur, kaw-kaw, kaw-kwa, tchku-ku-ku, twiiiii-twit, keah-ki, kwer-ku-oo, ker-ker-tsi, che-che-che, te-te-wa, pee-pee-pee, tse-tse-tse, kee-wa-ka-ti-oo-ti-oo, ka-wa, keou, koo-koo, t'wa-weet, ta-kare-ki-wa, pee-wee-te-te-wah-te, te-wah-te, tweet, etc." The same author further says: "It is mere imitation, and can be easily recognized when once heard. It is a steady performer, and sings for hours at a time, without changing its posture.

Nuttall says: "This large and well-known songster is found in all parts of America, from Hudson's Bay to the shores of the Mexican Gulf, breeding everywhere, though most abundantly in the northern portions.

"Early in October, these birds retire to the south, and, probably, extend their migrations, at that season, through the warmer regions toward the borders of the tropics. From the fifteenth of April till early in May, they begin to revisit the Middle and Southern States, keeping pace, in some measure, with the progress of vegetation. They appear always to come in pairs, so that their mutual attachment is probably more durable than the season of incubation. Stationed near the top of some tall orchard or forest tree, the gay and animated male salutes the morn with his loud and charming song. His voice, resembling that of the Thrush of Europe, but far more powerful and varied, rises pre-eminent amidst all the choir of the forests. His music has all the full charm of originality; he takes no delight in mimicry, and, therefore, really has no right to the name of Mocking Bird.

"From the beginning of the middle of May the Thrasher is engaged in building his nest, usually selecting for this purpose a low, thick bush in some retired thicket or swamp, a few feet from the earth, or even on the ground in some sheltered tussock, or near the root of a bush. It has a general resemblance to the nest of the Cat Bird; outwardly, being made of small interlacing twigs, and then layers of dry oak or beech leaves; to these materials generally succeed a stratum of strips of grape-vine or red cedar bark; over the whole is piled a mass of some coarse root fibers, and the finishing lining is made of a layer of finer filaments of the same. The eggs, never exceeding five, are thickly sprinkled with minute spots of palish brown on a greenish ground. In the Central States these birds rear two broods in the year; in other parts of America, but one. Both parents display the most ardent affection for the young, and attack dogs, cats, and snakes, in their defense. Toward their most insidious enemies of the human race, when the latter are approaching their helpless young, every art is displayed; threats, entreaties, and reproaches, the most pathetic and powerful, are tried; they dart at the ravisher with despair, and lament the bereavement they suffer in the most touching strains. I know nothing equal to the bursts of grief manifested by these affectionate parents, except the accents of human suffering.

"Their food consists of worms, insects, caterpillars, beetles, and various kinds of berries. The movements of the Thrasher are active, watchful, and sly; it generally flies low, dwelling among thickets, and skipping from bush to bush with its long tail spread out like a fan."

Yellow-breasted Chat, Yellow-breasted Icteria, or Warbler.—(*Icteria virens.*)

Fig. 9.

This noted species is one of our abundant summer residents. The males usually arrive a few days before the females. It is disposed to be very shy, and prefers the secluded high woods and underbrush. The food consists of insects and berries. The Chat usually mates the later part of May, and commences building the nest early in June. The nest, which both sexes help to prepare, is generally placed in the fork of a small cedar or low bush, and consists of dry leaves and grapevine bark, and is lined with blades of grass, leaves, and small sticks. The eggs, usually five in number, flesh-colored background, and marked with dull red and lilac spots.

"As soon as the bird has chosen his retreat," Nuttall says, "where he can obtain concealment, he becomes jealous of his assumed rights, and resents the least intrusion, scolding all who approach in a variety of odd and uncouth tones, very difficult to describe or imitate, except by a whistling, in which case the bird may be made to approach, but seldom within sight. His responses on such occasions are constant and rapid, expressive of anger and anxiety; and, still unseen, his voice shifts from place amidst the thicket. Some of these notes resemble the whistling of the wings of a flying duck, at first loud and rapid, then sinking till they seem to end in single notes. A succession of other tones are now heard, some like the barking of young puppies, with the variety of hollow, guttural, uncommon sounds, frequently repeated, and terminated occasionally by something like the mewing of a cat, but hoarser; a tone, to which all our Virens, particularly the young, have frequent recurrence. All these notes are uttered with vehemence, and with such strange and various modulations, as to appear near or distant, like the maneuvers of ventriloquism. In mild weather, also, when the moon shines, this exuberant gabbling is heard nearly throughout the night, as if the performer was disputing with the echoes of his own voice." Gentry says, "the following syllables express its song during the period of nidification quite accurately: twe-we-we-we-we-we hwawawawawa, kuh-che-che-che-che-che, tweiiiiii, chweah."

PLATE LXXIII.

Red and White-shouldered Blackbird, Three-colored Tropial.—(*Agelæus tricolor.*)

Fig. 1.

The Red and White-shouldered Blackbird is the Pacific coast variety of our Red-winged Blackbird. There is very little, if any, difference in their eggs and nests. Their habits are also similar. Coues says: "The Tricolor variety is extremely abundant and resident in the fertile portions of Southern California. It very rarely crosses the intermediate desert to the Colorado River; this arid tract forming a barrier to the eastward progress of many species, of great efficacy in distinguishing the *littoral fauna* from that of the Colorado Valley. One who has traveled this region will not be surprised that birds with any fancy for green, watery places, decline the same journey. At Wilmington and Drumm Barracks I found the Tricolors flocking in vast numbers, in November They thronged the streets of the town, and covered the military parade-ground; alone, so far as their congeners were concerned, but on intimate association with hundreds of Brewers' Blackbirds. Both species were almost as tame as poultry, and the boys used to stone them, to their mutual amusement, I should say, for the birds were never hit, and rather seemed to like the sport. Often, as I sat in my quarters, on a bright sunny day, the light would be suddenly obscured, just as by a quickly passing cloud, and a rushing noise ensued as the compact flock swirled past the window. They often alighted by hundreds on the roofs of the barracks, almost hiding the shingles, and every picket of a long paling fence near by would sometimes be capped by its bird. They were very noisy, chattering from daylight till dark—all the time they could see to fly about. Nobody troubled them much; but Hawks of various kinds—the Harrier, the Western Red-breast, and the Lanie—were continually dashing in among them, with terrible swooping, bringing death to not a few, and dismay everywhere. At this season the sexes kept mostly apart; the flocks of males seemed to largely outnumber the females. Very few of those I shot and examined were in perfect plumage, much of the black being varied with different shades of brown and yellowish, and the white wing-bar being imperfect. In spring the birds resort together to marshy spots, breeding in loose communities."

Lewis' Woodpecker.—(*Asyndesmus torquatus.*)

Fig. 2.

A very remarkably colored bird, that is to be met with in the mountainous parts of Western America. Dr. Coues, in his "Birds of the North West," gives a good account of this species, as follows: "The plumage of this remarkable Woodpecker is peculiar, both in texture and color; no other species of our country shows such a rich metallic iridescence, or such intense crimson, and in none is the plumage so curiously modified into a bristly character. Unlike most species, again, the sexes are not certainly distinguishable. The young, however, differ very materially, the under parts being dull gray, only here and there slashed with red, the face lacking the crimson velvety pilous area, and the upper parts being much less lustrous.

"This fine species, like *Sphyrapicus thyroideus*, is chiefly a bird of the vast forests that clothe most of our mountain ranges with permanent verdure. With this limitation, its distribution is extensive, as noted above. My own experience with the bird in life is confined to the vicinity of Fort Whipple, in Arizona, where it is a very common species. A bird of singular aspect, many of its habits are no less peculiar. One seeing it for the first time would hardly take it for a Woodpecker, unless he happened to

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observe it clambering over the trunk of a tree, or tapping for insects, in the manner peculiar to its tribe. When flying, the large dark bird might rather be mistaken for a Crow Blackbird; for, although it sometimes swings itself from one tree to another, in a long festoon, like other Woodpeckers, its ordinary flight is more firm and direct, and accomplished with regular wing-beats. It alights on boughs, in the attitude of ordinary birds, more frequently than any of our other species, excepting the *Colaptes*, and, with the same exception, taps trees less frequently than any. It may often be seen circling high in the air, around the tree-tops, apparently engaged in capturing passing winged insects; and, as it is particularly gregarious—let me say, of a sociable disposition—many are sometimes thus occupied together in airy evolutions about the withered head of some ancient woodland monarch falling to decay. At the sight, as the birds passed and repassed each other in vigorous flight, while the sheen of their dark-green plumage flashed in the sunbeams, I could not help fancying them busy weaving a laurel-wreath fitting to crown the last days of the majestic pine that had done valorous battle with the elements for a century, and was soon to mingle its mold with the dust whence it sprang.

"Unlike its gay, rollicking associates, the Californian Woodpeckers, Lewis', is a shy and wary bird, not easily destroyed. In passing from one part of the forest to another, it prefers, apparently through cautiousness, to pass high over the tops of the trees rather than to thread its way through their mazes. It generally alights high up, and procures its food at the same elevation. I do not remember to have ever seen one descend among bushes, still less to the ground, as Flickers are wont to do, in search of ants and other insects. At most times they are rather silent birds for this family; but during the mating season, which always calls out whatever vocal powers birds possess, their harsh notes resound through tne forest with startling distinctness. I have never identified one of their nests, but there is no question of their breeding in the summits of the pines, generally a projecting top blasted by lightning or decayed in natural process. In July, the young may be seen scrambling in troops about the tree-tops, before they are grown strong enough to fly; and a curious sight they are. Having seen more of them together than were at all likely to have been hatched in the same nest, I have no doubt that different families join each other as soon as the young are on wing, haunting favorable resorts. The association of Californian Woodpeckers and 'Sapsuckers' with these more aristocratic birds, seems partly a matter of sufferance, partly of necessity, for the smaller and more agile birds can scramble out of the way when, as often happens, Lewis' makes hostile demonstrations."

Mexican Flicker, Red-shafted Woodpecker, Red-shafted Flicker.—(*Calaptes mexicanus.*)

Fig. 3.

This is one of our very fine species, mostly confined to Western North America, along the eastern slopes and foot-hills of the Rocky Mountains to the Pacific. It is said to extend north to Sitka, south into Mexico, and east to Kansas. It is an abundant species, as much so as the well-known Golden-winged Woodpecker or Flicker is in the east. The habits of the two species are also very similar. Nuttall says, "Its manners, in all respects, are so entirely similar to those of the common species, that the same description applies to both. It is, however, always a much shier bird, and frequents the ground less. In the breeding season it utters the same echoing note of whitto, whitto, whitto; the males, at the same time, dodging after and pursuing each other in jealousy and anger. They also burrow into the oak or pine trees, and lay white eggs, after the manner of the whole family."

Anna Hummingbird.—(*Selasphorus anna.*)

Fig. 4.

Among the numerous species of North American birds, there are none more attractive and interesting than the Hummingbirds. In size, they are the smallest, and their colors are the most beautiful. They are also very abundant, and usually associate in pairs. Their flight is very rapid, and when on the wing they make a constant humming sound. They feed on the sweets extracted from the nectaries of flowers and on insects. The nest is neatly put together, and placed on a secluded branch; the outside is composed of moss and lichen, and is lined with most delicate, downy vegetable substances. The Anna Hummingbird is confined to the Pacific coast, where it is an abundant species. The migrations of this species are toward the tropics in the colder parts of the year. Of the sharp and shrill cry of the Hummingbird, Lesson says, "It is principally in passing from one place to another, that their cry, which he likens to the syllables ten-ten, articulated with more or less force, is excited. Most frequently," he says, "they are completely dumb;" and, he adds, that he has passed whole hours in observing them in the forests of Brazil, without having heard the slightest sound proceed from their throats. The length of this species is about four inches.

Yellow-billed Magpie.—(*Pica melanoleuca, var. Nuttallii.*)

Fig. 5.

This species has a yellow bill, otherwise it is precisely like the American Magpie. (Plate LIII, page 79.) Its habits and characteristics are the same. We give it a representation in the work, although the best ornithologists claim it as a mere accidental species.

Common Cormorant, Shag.—(*Graculus carbo.*)

Fig. 6.

This species is commonly found on the rocky parts of the North American coast. The nests are placed on high cliffs; many birds congregating together and living harmoniously. The nest is large, and composed of sticks and a mass of coarse grass and seaweed, sometimes a foot high. The rough oblong eggs are from four to six in number, of a chalky white and pale blue color. In the course of a few days after hatching the young are able to take to the water. "These birds," says Farrell, "are frequently seen sitting on posts, rails, or leafless trees by the water-side, when, if a fish should move on the surface within their sight, it is pounced upon and caught to a certainty. An eel is a favorite morsel with him, and a Cormorant has been seen to pick up an eel from the mud, return to the rail he was previously sitting upon, strike the eel three or four hard blows against the rail, toss it up into the air, and, catching it by the head in its fall, swallow it in an instant.' In China, the bridges across the Min, at Fauchau, may often be seen crowded with men viewing the feats of the tame fishing Cormorants. These birds look, at a distance, about the size of a Goose, and are of a dark dirty color. The fisherman who has charge of them stands upon a raft about two feet and a half wide and fifteen or twenty feet long, made out of five large bamboos, of similar size and shape, firmly fastened together. It is very light, and is propelled by a paddle. A basket is placed on it to contain the fish when caught. Each raft has three or four Cormorants connected with it. When not fishing, they crouch down stupidly on the raft."

Red-breasted Snipe, Gray Snipe, Grayback.—(*Macrorhamphus griseus.*)

Fig. 7.

This species is an inhabitant of the whole of North America. It is migratory, and winters in the south.

Coues says: "On the sand-bars, muddy flats, and marshy meadows of the North Carolina coast, I found the Graybacks very common, in flocks, all through the fall, associated with Godwits, Telltales, and various Sandpipers. But nowhere have I seen them so abundant as in Dakota during the fall passage—everywhere on the ponds, and especially in the saline pools of the alkali region along the Upper Missouri. There the birds were loitering in great flocks, wading in water so loaded with alkali that it looked sea-green and blew off a white cloud with the slightest breeze, while the edges for several yards all around were snow-white with solid efflorescence. Gazing only at the pool, one would fancy himself on an ice-bound Arctic region, while the surrounding country was desolate to match. Around such pools, the water of which was utterly undrinkable for man or beast, were numerous Ducks and waders, especially Teal, Plover, and these Snipe, swimming, wading, or dozing in troops on the banks in the yellow light of autumn, all in excellent order for the table. They were loaded with fat, though it seemed incredible that they could thrive in such bitterly nauseating and purgative waters.

"The Red-breasted Snipe is a gentle and unsuspicious creature by nature, most sociably disposed to its own kind, as well as toward its relatives among the Ducks and waders. In the western regions, where they are not often molested, no birds are more confiding, though none more timid. They gather in such close flocks, moreover, that the most cruel slaughter may be effected with ease by one intent only on filling his bag. As we approach a pool we see numbers of the gentle birds wandering along the margin, or wading up to the belly in the shallow parts, probing here and there as they advance, sticking the bill perpendicularly into the mud to its full length with a quick, dexterous movement, and sometimes even submerging the whole head for a second or two. All the while they chat with each other in a low, pleasing tone, entirely oblivious of our dangerous proximity. With the explosion that too often happens, the next moment some stretch dead or dying along the strand, others limp or flutter with broken legs or wings, while the survivors, with a startled weet, take wing. Not, however, to fly to a place of safety; in a compact body they skim away, then circle back, approaching again the fatal spot with a low, wayward, gliding motion, and often re-alight in the midst of their dead or disabled companions. No birds fly more compactly, or group together more closely in alighting; it seems as if the timid creatures, aware of their defenseless condition, sought safety, or at least reassurance, in each other's company. Thus it happens that a whole flock may be secured by successive discharges, if the gunner will seize the times when they stand motionless, in mute alarm, closely huddled together. In a little while, however, if no new appearance disturbs them, they cast off fear and move about separately, resuming their busy probing for the various water-bugs, leeches, worms, and soft molluscs, which form their food, as well as the seeds of various aquatic plants. When in good order, they are excellent eating.

"Being partly web-footed, this Snipe swims tolerably well for a little distance in an emergency, as when it may get for a moment beyond its depth in wading about, or when it may fall, broken-winged, on the water. On such an occasion as this last, I have seen one swim bravely for twenty or thirty yards, with a curious bobbing motion of the head and corresponding jerking of the tail, to a hiding place in the rank grass across the pool. When thus hidden, they keep perfectly still, and may be picked up without resistance, except a weak flutter, and perhaps a low, pleading cry for pity on their pain and helplessness. When feeding a their ease, in consciousness of peace and security, few birds are of more pleasing appearance. Their movements are graceful and their attitudes often beautifully statuesque."

Northern Phalarope.—(*Lobipes hyperboreus.*)

Fig. 8.

The Northern Phalarope resembles the Sandpipers in some respects, but differs from them in the comparative shortness of its tail and slenderness of its beak. This species is very numerous upon the extensive lakes and rivers of North America; their range, however, probably does not extend far south, even during the course of their migrations. In its habits it is essentially aquatic. It swims with the utmost buoyancy and ease, though it is not known to dive even when hard pressed; and, according to Audubon, indulges in the remarkable habit of alighting while at sea, even at a distance of one hundred miles from shore, on beds of floating seaweed, over which its lobed feet enable it to run with great lightness and rapidity. Its flight is strong and swift, but when on the ground its movements are inferior in agility to those of the Sandpiper. Insects, worms, and minute mollusca, which it collects by dipping the bill into the water, form its principal means of subsistence. The call is a sharp, clear "tweet, tweet." The nest, which is usually made in a hollow in marshes, or on the islands of fresh-water lakes, is formed principally of grass, and covered with a few bits of hay or moss. The eggs, from one to four in number, have usually a dark olive-colored shell, thickly spotted with black. The male is about seven inches long, and thirteen inches broad.

Cooper's Sandpiper.—(*Tringa cooperi.*)

Fig. 9.

This is one of our solitary species, that is usually met with on Long Island. Like all Sandpipers, they principally frequent the northern parts. Marine marshes on the sea-shore, or the borders of lakes and rivers, are the situations they prefer, visiting the temperate climates during the winter, and returning to the colder latitudes to spend the summer months. Their migrations take place in large parties, which fly by night or early in the morning. During the recess of the tide, they may be seen upon the sea-shore, seeking their food from the refuse of the ocean, or quietly and intently probing the sands in search of worms and shell-fish, and sometimes retreating rapidly before the advancing surge, and profiting by what the wave leaves on its retreat. In all their movements they display great activity, either when running rapidly and lightly on the fore-part of their toes over the surface of the moist sand, when swimming in the water, or when winging their way with a varied, graceful, and rapid flight through the air. The voice of this bird is clear piping and resonant. Their food consists of worms, small molluscs, insects, larvæ, and occasionally of delicate seeds. The four pear-shaped eggs are deposited in a dry hollow on the ground, which is slightly lined with a few blades of grass. The female alone broods; the young come forth covered with down; they at once leave the nest, and grow with great rapidity.

PLATE LXXIV.

Fork-tailed Gull. (*Xema Sabinei.*)

Fig. 1.

Captain J. Sabine has the honor of introducing this interesting cies, in 1818. It was discovered at its breeding station on some rocky islands, lying off the west coast of Greenland, associ- l in considerable numbers with the Arctic Tern, the nests of ı birds being intermingled. Nuttall says: "It is analogous to Tern, not only in its forked tail, and in its choice of a breeding- :e, but also in the boldness which it displays in the protection its young. The parent-birds flew with impetuosity toward ıe who approached their nests, and, when one was killed, its e, though frequently fired at, continued on the wing close to the . They were observed to collect their food from the sea-beach, ding near the edge of the water, and gleaning up the marine cts which were cast on shore. A single individual was seen Prince Regent's Inlet, and many specimens were procured in course of the second voyage on Melville Peninsula. A pair ı also obtained at Spitzbergen, so that it is a pretty general sum- resident on the shores of the Arctic Seas, and may thus be merated amongst the European as well as the American birds. rives in these remote boreal regions in June, and retires to the hward in August. The eggs, two in number, are deposited on bare ground, and hatched in the last week of July. They are n olive color, with many brown blotches, and about an inch a half in length."

stern Gull, Common Gull, Herring Gull.—(*Larus argentatus, var. occidentalis.*)

Fig. 2.

This bird is now considered a variety of the species known as Herring or Common Gull. (Plate LIV., fig. 2.) It can dily be distinguished by the slaty bluish coloration of its man- . The Western Gull is abundant on the Pacific coast. Brehm ys: "Gulls are to be met with in every quarter of the globe, t are most abundant in northern regions. A few species wan- r to a considerable distance from land, always, however, return- g to the vicinity of the shore. All may, therefore, properly be lled coast birds, and to the mariner they are always welcome sure harbingers of land. Their flights inland are even more equent than their excursions into the open sea, and many of them ay often be seen following the course of large rivers, or winging eir way from lake to lake, into the interior of the country. Some ecies will frequently settle in the vicinity of inland lakes, and ost of them prefer a similar situation as their breeding-place. ll of them live more or less upon fishes, but some also greedily evour insects, and then later migrate with the greatest regularity. Besides the above articles of nourishment, Gulls eagerly pick up vhatever small animals or animal substances they may happen to neet with. Carrion they devour as greedily as do the Vultures, ven if it be in a putrid condition. In short, they appear to share he appetites of many other birds, and to be quite as omnivorous ıs the Crows. All Sea Gulls walk well and quickly; they swim buoyantly, lying in the water like so many air-bubbles, and dive with facility, but to no great depth, plunging probably for not more than one or two feet below the surface. Their voice consists of a harsh, disagreeable scream. As their breeding time approaches, these birds begin to assemble in flocks, which are frequently joined by other parties, until at last they form a numerous host. The larger species crowd less closely together at these times than the smaller ones, the latter often literally covering the rocks on which their nests are so closely placed, that the brooding parents press upon each other. The structure of the nests varies in different localities; when grass and seaweeds are procurable they are carefully heaped together, but when these fail the nests are of still scantier proportions. The brood consists of from two to four comparatively large oval eggs, with strong, coarse, brownish green, or greenish brown shells, spotted with gray and brown; upon these both male and female sit by turns for the period of three or four weeks. The young are clothed in a thick covering of speckled down, and shortly after emerging from the shell may be seen trotting about upon the sand, hiding themselves if alarmed behind little hillocks, or boldly plunging into the water. Such, however, as are born upon the ledges of perpendicular rocks, must necessarily remain there until their wings are strong enough to enable them to come down from their lofty perch, for they appear not to take the desperate leaps into the sea attempted by so many sea-birds to their destruction. During the first few days the young are fed with half-digested food from their parents' crop, and afterward with freshly-caught fishes, or other small animals. For some little time after they are able to fly they remain together, but soon quit their birth-place, and spread themselves along the coast."

Saddle-back, Great Black Backed Gull, or Cobb. (*Larus marinus.*)

Fig. 3.

This is one of the largest-sized species of Gulls that are met with along the Atlantic coasts of America and Europe. At the approach of winter it migrates toward the Southern States, but rarely visits the interior or fresh waters. Nuttall says: "The Black-backed Gull feeds ordinarily upon fish, both dead and living, as well as on fry and carrion, sometimes also on shell-fish, and, like most of the tribe of large Gulls, it is extremely ravenous and indiscriminate in its appetites when pressed by hunger. It watches the bait of the fisherman, and often robs the hook of its gain. As Mr. Audubon justly and strongly remarks, it is as much the tyrant of the sea-fowl as the Eagle is of the land-birds. It is always on the watch to gratify its insatiable appetite. Powerfully muscular in body and wing, it commands without control over the inhabitants of the ocean and its borders. Its flight is majestic, and, like the Raven, it soars in wide circles to a great elevation; at which times its loud and rancous cry or laughing bark of 'cak, cak, cak,' is often heard. Like the keen-eyed Eagle, it is extremely shy and wary, most difficult of access, rarely obtained but by accident or stratagem. It is the particular enemy of the graceful Eider, pouncing upon and devouring its young on every occasion, and often killing considerably sized Ducks. In pursuit of crabs or lobsters it plunges beneath the water; has the ingenuity to pick up a shell-fish, and, carrying it high in the air, drops it upon a rock to obtain its contents; it catches moles, rats, young hares, gives chase to the Willow Grouse, and sucks her eggs, or devours her callow brood; it is even so indiscriminate in its ravenous and cannibal cravings as to devour the eggs of its own species. In short, it has no mercy on any object that can contribute in any way to allay the cravings of its insatiable hunger and delight in carnage. Though cowardly toward man, before whom it abandons its young, its sway among the feathered tribes is so fierce that even the different species of Jægers or Skua Gulls, themselves daring pirates, give way at its approach. The length of this species is thirty, and extent about sixty-five inches."

Snow Goose, White Brandt. (*Anser hyperboreus.*)

Fig. 4.

This is one of our North American species, that is said to be very abundant in the West, much more so than in the East. When

migrating northward, although the young and the old start at the same time, they keep in separate flocks, and continue so to do even when approaching the higher latitudes. They also remain divided during the winter whilst they are living in the same localities; and Audubon informs us that, although the young and old are often seen to repose on the same sand-bar, the flocks keep at as great a distance as possible from each other. "Dispersed," says Coues, "over all of North America, the Snow Goose is nowhere a permanent resident; its migrations are extensive, and performed with the utmost regularity; the maximum variation depending upon the advance or retardation of the season—less strictly speaking upon the weather—is slight. It is never seen in the United States in summer, for it returns to high latitudes to breed. Along the Atlantic coast, and, indeed, through the whole Eastern provinces, it may be called rare, at least in comparison with its great abundance in various parts of the West. Those found in Texas, and anywhere about the Gulf of Mexico, undoubtedly migrate inland, following the course of the larger rivers; while those that pass along the Atlantic seaboard generally hug coast, and are hardly to be met with beyond maritime districts. . . . On the Pacific coast itself, particularly that of California, the birds are probably more abundant in winter than anywhere else. Upon their arrival in October, they are generally lean and poorly flavored, doubtless with the fatigue of a long journey; but they find abundance of food and soon recuperate. At San Petro, in Southern California, in November, I saw them every day, and in all sorts of situations—some on the grassy plain, others among the reeds of little streams or the marshy borders of the bay, others on the bare mud-flats or the beach itself. Being much harassed, they had grown exceedingly wary, and were suspicious of an approach nearer than several hundred yards. Yet, with all their sagacity and watchfulness—traits for which their tribe has been celebrated ever since the original and classic flock saw Rome, as it is said—they are sometimes outwitted by very shallow stratagem. . . . A Wild Goose of any species is a good example of wariness in birds, as distinguished from timidity. A timid bird is frightened at any unusual or unexpected appearance, particularly if it be accompanied by noise; while a wary one flies from what it has learned to distrust or fear through its acquired perceptions or inherited instincts." Dr. Heerman says: "They often cover so densely with their masses the plains in the vicinity of the marshes, as to give the ground the appearance of being clothed with snow. Easily approached on horseback, the natives sometimes near them in this manner, then suddenly putting spurs to their animals, gallop into the flock, striking to the right and left with short clubs, and trampling them beneath their horses' feet. I have known a native to procure seventeen birds in a single charge of this kind through a flock covering several acres." "The eggs," says Sir John Richardson, in the "Fauna Boreali Americana," "are of a yellowish white color, and regularly oval form, are a little longer than those of an Eider Duck, their length being three inches, and their greatest breadth two. The young fly in August, and by the middle of September all have departed to the southward. The Snow Goose feeds on rushes, insects, and in autumn on berries. When well fed it is a very excellent bird, far superior to the Canadian Goose in juiciness and flavor. It is said the young do not attain their full plumage before their fourth year. . . . The Snow Geese make their appearance in spring, a few days later than the Canada Geese, and pass in large flocks both through the interior and on the coast." This species is about twenty-seven inches long, and from fifty-two to fifty-six broad; the wing measures sixteen and the tail six inches.

Smew, White Nun, White-headed or Dwarf Goosander. (*Mergellus albellus.*)

Fig. 5.

We give this species a representation in the work, although it is not positively known to be a native of North America. Dr. Brehm says the real habitat of the White-headed or Dwarf Goosander, as it is sometimes called, seems to be in Northern Asia, from whence it extends westward into Northern Europe, and eastwardly into the northern parts of America. During the winter months, however, it wanders far southward. It is then to be met with in considerable numbers throughout the whole of China, being more especially abundant in the northern provinces of the Celestial Empire. It is, moreover, a regular visitant to Northern India, and is not unfrequently seen in Central and Southern Europe. It seems to be more scarce in the southern provinces of the United States of North America; for Audubon informs us that in the Western division, at least, it was a bird of unusual occurrence. In very hard winters it makes its appearance in Germany as early as the month of November, but more usually not until the middle of December, returning again to the north in February or March. It is likewise a winter visitor to the shores of Great Britain, large numbers being sometimes seen on the eastern or southern coasts of England. It is rarely found north of the Humber, and is comparatively rare in Scotland and Ireland. In some parts of Switzerland it may be met with even so late as the beginning of May. This species is generally only to be found in the neighborhood of fresh-water lakes; sometimes, but only casually, it may be seen in quiet bays upon the sea-coast, more especially in such as are at the mouths of rivers. Unlike the divers, it seems to prefer flowing streams to stagnant water, and often wanders along the course of rivers, from which it only makes excursions to such lakes and ponds as may be free from ice. When walking, this species holds its body in a horizontal position, with its head retracted; it walks with a waddling gait, but better than the generality of its near allies. When swimming, it keeps itself about half submerged, and when it dives it stretches itself out to its full length, and disappears in an instant. Its flight, which very much resembles that of the smaller Ducks, is rapid, straight, accompanied by a slight whirring of the wings, and is generally but little elevated above the surface of the ground or of the water. It is remarkably lively in its disposition, and even during the bitterest cold weather is sprightly and active. The length of this species is nineteen inches; the breadth thirty inches; the length of wing eight inches and a half, and the length of tail three inches.

PLATE LXXV.

Great Auk. (*Alca impennis.*)

Fig. 1.

The Great Auk is a very rare bird. There are said to be but four specimens in North America—in the Academy of Natural Sciences, Philadelphia, the Cambridge Museum, another in the Girard Cabinet in Vassar College, and the fourth in the Smithsonian Institution. Mr. R. Deane makes record of a specimen "found dead in the vicinity of St. Augustine, Labrador, in November 1870." It was sold for $200, and was forwarded to Europe.

Professor James Orton (American Naturalist, III, 539,) says, "It was an arctic bird, dwelling chiefly in the Faroe Islands, Iceland, Greenland, and Newfoundland." Degraded, as it were, from

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the feathered rank, said Nuttall, and almost numbered with the amphibious monsters of the deep, the Auk seems condemned to dwell alone in those desolate and forsaken regions of the earth. But it was an unrivalled diver, and swam with great velocity. One chased by Mr. Bullock, among the Northern Isles, left a six-oared boat far behind. It was undoubtedly a match for the Oxfords. It was finally shot, however, and is now in the British Museum. "It is observed by seamen," wrote Buffon a hundred years ago, "that it is never seen out of soundings, so that its appearance serves as an infallible direction to the land." It fed on fishes and marine plants, and laid, either in the clefts of the rocks or in deep burrows, a solitary egg, five inches long, with curious markings resembling Chinese characters. The only noise it was known to utter was a gurgling sound. We know of no changes on our northern coast sufficient to affect the conditions necessary to the existence of this oceanic bird. It has not been hunted down like the Dodo and Dinornis. The numerous bones on the shores of Greenland, Newfoundland, Iceland, and Norway, attest its former abundance; but within the last century it has gradually become more and more scarce, and finally extinct. There is no better physical reason why some species perish, than why man does not live forever. We can only say with Buffon, "it died out because time fought against it."

Common or Foolish Guillemot, Murre. (*Uria troile.*)

Fig. 2.

This species is a common inhabitant of the high northern latitudes of both hemispheres. "From the numbers that congregate," observes Farrell, "and the bustle apparent among them, confusion of interests might be expected; but, on the contrary, it will be found that the Guillemots occupy one station or line of ledges on the rocks, the Razor-bills another, and the Puffins a third, Kittiwake Gulls a fourth, while the most inaccessible pinnacles seem to be left for the use of the lesser Black-backed and Herring Gulls. Two distinct species scarcely ever breed close by the side of each other."

The egg is laid on a ledge or hollow of the bare rock; it is pear-shaped, about three inches and a quarter long, of a bluish green, or yellowish green color, with streaks and blotches of brown or black; sometimes the eggs are plain white or green. Great numbers of these eggs are collected by men who descend from the cliff above by means of ropes. The eggs are hatched in about a month. The young are fed for a short time on the rocks by their parents, after which they accompany them to the sea. In what manner they descend seems to be a problem. Mr. Waterton was assured by the men about Flamborough Head that when the young Guillemot gets to a certain size, it manages to climb on the back of the old bird, which conveys it down to the ocean; and Mr. Farrell, in support of this statement, assures us that he has seen, at the base of very high cliffs in the Isle of Wight, the young of Razor-bills and Guillemots "so small that they could not have made the descent by themselves from the lofty site of their birthplace without destruction; yet these little birds knew perfectly well how to take care of themselves, and, at the approach of a boat, would swim away and dive like so many Dabchicks." About August, old and young leave the rocks and take to open water. Audubon gives the following curious description of these birds on a group of rocks, which consist of several low islands, destitute of vegetation, and at no great height from the water. "Here thousands of Guillemots annually assemble at the beginning of May, to deposit each its single egg and raise its young. As you approach these islands, the air becomes darkened with the multitudes of these birds that fly about. Every square foot of the ground seems to be occupied by a Guillemot, planted erect, as it were, on the granite rock, but carefully warming its cherished egg. All look toward the south, and if you are fronting them, the snowy-white of their bodies produces a remarkable effect, for the birds at some distance look as if destitute of head, so much does that part assimilate with the dark hue of the rocks on which they stand. On the other hand, if you approach them in the rear, the isle appears as if covered with a black pall." This species is seventeen inches and a half long, and from twenty-seven to twenty-eight broad; the wing measures three inches, and the tail two and a half.

Giant Petrel, or Giant Fulmar, Mother Carey's Geese. (*Procellaria gigantea.*)

Fig. 3.

This is the largest of the Petrels, and may be regarded as holding a position intermediate between the Albatross and the Storm Petrels. The length of this species is about two feet eight inches, and the spread of the wings from four feet and a half to five feet.

Its migrations extend over the temperate and antarctic zones of the southern hemisphere. Nuttall says: "The Giant Petrels, though so infatuated, probably in the breeding season, as to submit to death rather than abandon their resorts and young, are at other times sufficiently active and adventurous, being seen to assemble in great numbers on the approach of a storm, sailing majestically with wide expanded and scarcely moving wings close to the surface of the water, scanning the agitated bosom of the deep in quest of some fish or other object of prey raised toward the surface by the foaming billows. They also feed, when opportunity offers, on the dead bodies of seals or birds, and are themselves, by sailors, considered as good food." Pennant thinks it probable that they migrate with the Albatross into the southern Hemisphere to breed.

Sea Parrot, Common Puffin, or Coulterneb. (*Fratercula arcticus.*)

Fig. 4.

The cold and inclement regions of the whole northern hemisphere is the general resort of this species. Its migrations, in winter, extend as far south as the middle states. "The Puffins," says Dr. Brehm, "are eminently aquatic birds, only visiting the land for the purpose of hatching and rearing their young; nevertheless they often approach the shore or visit harbors on the coast. They are generally met with in little flocks consisting of from eight to twenty individuals, and employed in fishing for food.

"During the breeding season, however, they assemble in such vast numbers as almost to cover the rocks on which they build. Their food consists principally of fishes and molluscous animals, which are invariably caught by diving. The Puffins are distinguishable from all their allies by the impetuosity of their flight. Sometimes they may be seen swimming quietly upon the water and diving into the advancing waves; generally, however, they are observed flying, and not only shooting over but dashing through them. With outstretched wings they plunge into the billows, urging their career with rapid strokes, twisting and turning in the water, not only sideways, but completely round, so that sometimes the dark-colored back, sometimes the shining white under the surface becomes visible; now they seem to follow the outline of the wave, climbing upon one side of it, and plunging down the other, as they suddenly emerge from the water, and, after rising ten or twelve feet into the air, once more plunge obliquely into the sea, when they again dive, rowing themselves along with feet and wings till, after making their way to a considerable distance, they come up into the air, apparently simply to take breath, and forthwith disappear in the same manner. The interest attaching to this spectacle is considerably increased from the circumstance of so many of the birds joining in these active evolutions; just as one plunges beneath the surface another emerges, and as they are all

busily employed, it is difficult for the eye to follow their rapid evolutions.

"Like many other divers, they dig, by means of their beak and claws, holes in the greensward, with which their breeding-place is generally covered, to the depth of two feet, or even more; their excavations having more the appearance of rabbit-holes than of nesting-places for a bird; at the bottom they are slightly wider than elsewhere, and here they lay their eggs, without making any nest. Occasionally, however, they collect a few stalks of grass together, upon which their eggs are deposited. Not unfrequently they merely take possession of the holes prepared in preceding years. Their nesting-place being completed, each female lays a solitary egg, which is of large size. Upon this egg the male and female sit by turns for a very long period; how long has not yet been ascertained, but it extends over several weeks; if disturbed during their confinement, the parents become much excited, and defend their nests vigorously, uttering cries which have been compared to the growling and yelping of young dogs, at the same time spreading out their tails and biting their opponent with their sharp bills." Nuttall says: "Their bite is, however, very severe, and they can, when irritated, take out a piece of flesh from a man's hand without any extraordinary effort. When reared and domesticated they become quite tame, and, in the end, familiar." The length of this species is about thirteen inches.

Tufted Puffins, or Tufted Mormons. (*Fratercula cirrhata.*)

Fig. 5.

In its manners and characteristics, this species resembles the Sea Parrot, or Common Puffin. (Plate LXXV, fig. 4.)

In length it is from fifteen to eighteen inches. Over each eye arises a tuft of feathers about four inches in length.

Fulmar, Petrel, Fulmar. (*Fulmarus glacialis.*)

Fig. 6.

This species is a very common and constant resident in the Arctic Ocean. In winter its migration extends to the United States. Its length is from fifteen to eighteen inches; its breadth forty-one to forty-three inches; the length of its wings twelve to thirteen inches; length of tail four inches and two-thirds.

"The Fulmar," says Captain Scoresby, "is the constant companion of the whale-fisher. It joins his ship immediately on passing the Shetland Islands, and accompanies it through the trackless ocean to the highest accessible latitudes. It keeps an eager watch for everything thrown overboard; the smallest particle of fatty substance can scarcely escape it. Though few should be seen when a whale is about being captured, yet, as soon as the flensing process commences, they rush in from all quarters and frequently accumulate to many thousands in number. They then occupy the greasy track of the ships, and, being audaciously greedy, fearlessly advance within a few yards of the men employed in cutting up the whale. It is highly amusing to see the voracity with which they seize the pieces of fat that fall in their way; the size and quantity of the pieces they take at a meal; the curious chuckling noise which, in their anxiety for dispatch, they always make; and the jealousy with which they view, the boldness with which they attack, any of their species that are engaged in devouring the finest morsels. When carrion is scarce, the Fulmars follow the living whale, and sometimes, by their peculiar motions when hovering at the surface of the water, point out to the fisher the position of the animal of which he is in pursuit. They can not, however, make much impression on the dead whale until some more powerful animal tears away the skin, for this is too tough for them to make their way through."

Mr. John MacGillivray, who visited St. Kilda, the principal breeding-place of this species, in June, 1840, says: "This bird exists here in almost incredible numbers, and to the natives is by far the most important of the productions of the island. It forms one of the principal means of support to the inhabitants, who daily risk their lives in its pursuit. The Fulmar breeds on the face of the highest precipices, and only on such as are furnished with small grassy shelves, every spot on which, above a few inches in extent, is occupied with one or more of its nests. The nest is formed of herbage, seldom bulky, generally a mere excavation in the turf, lined with dried grass, and the withered tufts of the sea-pink, in which the bird deposits a single egg, of a pure white color, when clean, which is seldom the case. . . . The birds are very clamorous on being handled, and vomit a quantity of clear oil, with which I sometimes observed the parent birds feeding them by disgorging it. The old birds, on being seized, instantly vomit a quantity of clear amber-colored oil, which imparts to the whole bird, its nest, and young, and even to the rock it frequents, a peculiar and very disagreeable odor. Fulmar oil is the most valuable production of St. Kilda. . . . Besides supplying their lamps, this oil is used by the inhabitants of the island as a medicine."

Stormy Petrel, Mother Carey's Chicken. (*Procellaria pelagica.*)

Fig. 7.

This is another of our species that is numerously to be met with near the shores of the Atlantic coast.

"In their usual habitat, that is, in the wide sea, the Storm Petrels live in a constant state of activity, and may be seen flying about during the entire day, and heard throughout the night. Occasionally they may be seen disporting themselves singly, but more generally they make their appearance in small or more numerous companies, during fine as well as in stormy weather. All day long they are occupied in flying over the waves, the risings and fallings of which they exactly follow, or in mounting high in the air like Swallows, when they descend again, as though about to plunge into the water, but rise again without touching it. Sometimes, again, they settle down upon the water, and remain motionless, as if unable to move from the same spot, though all around them is in constant agitation and turmoil. When flying, they make but few strokes with their wings, but these are obviously very effective, and their action much diversified. Sometimes they may be seen with their wings widely expanded, and in this manner they sail along for minutes together, without the slightest effort; then, suddenly bestirring themselves, a few quick, powerful strokes, given after the manner of a Swift, raise them above the waves, when they astonish the observer by the masterly precision of their evolutions, as they shoot down obliquely over the billows, or mount up again high into the air. Should they espy anything in the shape of food, they at once hasten toward it, running upon the water, and, having seized it with their beak, immediately resume their aerial pastime. As to their powers of swimming, they seem so seldom to adopt that mode of locomotion, that many careful observers declare that they never swim at all, but that they only sit down, as it were, and float on the sea, without ever using their legs as instruments of propulsion. Their strength of wing is wonderful; they literally fly about all day long without resting at all. It is only after the long continuance of a storm that they seem to be wearied, and yet even this fatigue is not produced by their exertions in battling with the wind, but because, during the violence of the tempest, they are unable to obtain their usual supply of food, and, consequently, are exhausted for want of nourishment. Their voice is seldom heard in the daytime, which, in truth, appears to be to them the season of repose; it is in the evening, shortly after the sun has gone down, that they seem most active and alert; at that time,

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should the wind permit, their call-note may be frequently heard. In disposition they are particularly harmless, living in perfect good-fellowship with each other, and appearing to care little about other birds. Their food consists of all sorts of soft-bodied animals, picked up from the surface of the ocean; but we are unable to say more upon this subject. The stomachs of such as have been examined contained nothing but a fluid resembling train-oil, but never the slightest trace of animal remains."

PLATE LXXVI.

Fork-tailed Flycatcher. (*Milvulus tyrannus.*)

Fig. 1.

This is one of those beautiful tropical American birds, that is met with only as a straggler in North America. Nuttall says: "In its habits it resembles the other native species of the genus, is a solitary bird, remaining for a long time perched on the limb of a tree, from whence it occasionally darts after passing insects, or, flying downward, it alights on the tufted herbage arising above the partially drowned savannas, beyond whose limits this sedentary species but seldom strays. While seated, his long train is in motion, like that of the Wagtail, and he now and then utters a twitter in the manner of the King-bird. Beside insects, like our King-bird, he feeds on berries, and this individual has his stomach distended with those of the poke plant."

South America affords two other species resembling the present, and equally remarkable for the singular length and forking of the tail-feathers.

Swallow-tailed Flycatcher, Scissor-tail. (*Milvulus forticatus.*)

Fig. 2.

This elegant bird, though properly a native of Central America, is, as the last named, occasionally met with in the United States. They are usually seen assembled in large parties upon low brushwood, and from thence fly down to seize their insect prey. At the appearance of dusk, they retire to pass the night together upon a favorite tree. While perched, they seem to be of very indolent and quiet disposition, but while in flight their appearance is striking and remarkable, as they constantly open and close their long tails, after the fashion of a pair of scissors, during the whole time that they are upon the wing, a circumstance from which they derive their name. Insects constitute their principal fare, and these they capture in the same manner as other members of their family; they also pursue and devour many small birds, and, according to Nuttall, frequently consume berries. The nest, which is usually concealed in a thickly-foliaged bush, is open above, and formed of delicate twigs, snugly lined with a bed of fibers, wool, or feathers; the eggs are white, mottled with reddish brown, these markings being thickest at the broad end. As autumn draws to a close, the Scissor Birds congregate with other species in large parties, previous to setting forth upon their migrations. Schomburghk tells us that such of these flocks as he observed leaving the country, settled upon the trees from about three to five o'clock in the afternoon, and remained there for the night, resuming their southern course at the first dawn of day.

Olive-sided Flycatcher; Cooper's Flycatcher. (*Contopus borealis.*)

Fig. 3.

This expert Flycatcher is met with in the evergreens, and in orchards, in most parts of North America. Its disposition is similar to the other members of the family. Describing this species, Nuttall says: "I have watched the motions of two other living individuals, who appeared tyrannical and quarrelsome even with each other; the attack was always accompanied with a whining, querulous twitter. Their dispute was, apparently, like that of savages about the rights of their respective hunting grounds. One of the birds, the female, whom I usually saw alone, was uncommonly sedentary. The territory she seemed determined to claim was circumscribed by the tops of a cluster of tall Virginia junipers or red cedars, and an adjoining elm, and decayed cherry tree. From this sovereign station, in the solitude of a barren and sandy piece of forest, she kept a sharp lookout for passing insects, and pursued them with great vigor and success as soon as they appeared, sometimes chasing them to the ground, and generally resuming her perch with an additional mouthful, which she swallowed at leisure. On descending to her station, she occasionally quivered her wings and tail, erected her blousy cap, and kept up a whistling, oft-repeated, whining call of 'pu 'pu, then varied to 'pu 'pip, and 'pip 'pu, also at times, 'pip 'pip 'pu, 'pip 'pip 'pip, 'pu 'pu 'pip, or 'tu, 'to, 'tu, and 'tu 'tu. This shrill, pensive, and quick whistle, sometimes dropped almost to a whisper, or merely 'pu. The tone was, in fact, much like that of the 'phu 'phu 'phu of the Fish Hawk. The male, however, besides this note, at long intervals, had a call of 'eh 'phebee, or 'h 'phebea, almost exactly in tone of the circular tin whistle, or bird-call, being loud, shrill, and guttural at the commencement."

According to Minot, "The nest is much less finished and artistic than that of the Wood Pewee, and is, moreover, nearly always placed in an evergreen or orchard tree. It is frequently built in a pine, from fifteen to even fifty feet above the ground, being placed in the fork of a horizontal limb. One before me is shallow, and is composed of twigs, fine strips of bark, stalks of field-weeds, and a little moss. The eggs of each set are usually five, average about 0.85 by 0.65 of an inch, and are, in Massachusetts, laid in the second week in June. They are white, or creamy, spotted with lilac and reddish brown."

Gray Kingbird, Piping Flycatcher. (*Tyrannus dominicensis.*)

Fig. 4.

The usual habitat of the Gray Kingbird is in the West Indies, Florida, and to the Carolinas. "Their flight," says Audubon, "is performed by a constant flutter of their wings, unless when the bird is in chase, or has been rendered shy, when it exhibits a power and speed equal to those of any other species of the genus. During the love season, the male and female are seen rising from a dry twig together, either perpendicularly, or in a spiral manner, crossing each other as they ascend, twittering loudly, and conducting themselves in a manner much resembling that of the Tyrant Flycatcher. When in pursuit of insects, they dart at them with great velocity. Should any large bird pass near their stand, they immediately pursue it, sometimes to a considerable distance. I have seen them, after teasing a Heron or Fish Crow, follow them nearly half a mile, and return exulting to the tree on which they had previously been perched. Yet I frequently observed that the approach of a White-headed Pigeon or Zenaida Dove, never ruffled their temper. To the Grackles they were particularly hostile, and, on all occasions drove them away from their stand, or the vicinity of their nests, with unremitting perseverance. The reason in this case and in that of the Fish Crow was obvious, for these birds sucked their eggs or destroyed their young whenever an opportunity occurred.

"They place their nest somewhat in the manner of the King-bird, that is, on horizontal branches, or in the large fork of a mangrove, or bush of any other species, without paying much attention to its position with respect to the water, but with very singular care to place it on the western side of the tree, or of the islet. . . .

It is composed externally of light, dry sticks, internally of a thin layer of slender grasses or fibrous roots. There were regularly four eggs, of a white color, with many dots toward the larger end."

Rocky Mountain or Black Flycatcher. (*Sayornis nigricans.*)

Fig. 5.

This Rocky Mountain species in its appearance and manner bears a very strong resemblance to our common Pewee, or Phebe-bird. It was obtained by Mr. T. Peale, a naturalist connected with Major Long's expedition in the vicinity of the Arkansas river, within twenty miles of the Rocky Mountains. Nuttall says: "We first observed this bird in our route westward, about the fourteenth of June, within the first range of the Rocky Mountains, called the Black Hills, and in the vicinity of that northern branch of the Platte known by the name of Laramie's Fork. At the time, we saw a pair perched, as usual, on a mass of rocks, from which, like the Pewee, though occasionally alighting, they flew after passing insects, without uttering any note that we heard; and from their predilection, it is probable they inhabit among broken hills and barren rocks, where we have scarcely a doubt, from their behavior, they had at this time a brood or a nest among these granite cliffs. They appeared very timorous on our approach, and seemed very limited in their range. Except among the Blue Mountains of the Columbia, we scarcely ever saw them again."

Arkansas Flycatcher. (*Tyrannus verticalis.*)

Fig. 6.

This noisy and quarrelsome Flycatcher is numerously to be met with in the western parts of North America. Like the King Bird, they dispute the familiarity or approach of any other bird during the time of incubation.

Mr. Allen says: "The Arkansas Flycatcher occurs abundantly as far east as Fort Hays, Kansas, where it is one of the most numerous and characteristic of the woodland birds. It seems even more pugnacious than its relative, the King Bird, the males fighting with each other almost constantly; and it is equally alert in driving other birds from the vicinity of its nest. Its notes are harsher and louder than those of the King Bird, though at times rather more musical; they are marked by the same general character. It is more graceful on the wing than the latter bird, possessing rather superior powers of flight, yet resembling it closely in general habits. It constructs a rather bulky and conspicuous nest, composed outwardly of the coarse stems of plants, softly lined with finer material, generally hair; it is placed on the outer and higher branches of quite large trees. The eggs, commonly five in number, in size, shape, and color so closely resemble those of the King Bird as not to be always distinguishable. Dozens of pairs were breeding in the narrow belt of timber bordering Big Creek, on the military reservation at Fort Hays. We also found them nesting in isolated trees at the heads of ravines, sometimes several miles from any other tree or shrub."

The length of this species is nine inches.

Chimney Swift, Chimney Swallow. (*Chaetura pelasgia.*)

Fig. 7.

The familiar Chimney Swifts, sometimes called Chimney Swallows, are readily distinguished from other Swallows by their long wings and short tail. Their song consists entirely of a loud and often-repeated chirp, which is so sprightly, and so evidently the outpouring of the bird's own joyous sensations, as it turns its breast in all directions, flaps its wings, and indulges in a variety of animated gestures, that it can not fail to please the hearer, and impart an additional charm to the beauties of the first hours of a bright early summer's day.

Soon after their appearance, they commence constructing their curious nests, which are usually found in chimneys, and of which Dr. Brewer says:

"The nest of the Chimney Swallow is one of the most remarkable structures of the kind to be found among the handiwork of even this interesting family, nearly all of whom are far from being undistinguished for their architectural accomplishments. It is composed of small twigs of nearly uniform size, which are interwoven into a neat semi-circular basket. In selecting the twigs with which to construct the nest, the Swift seems to prefer to break from the tree such as are best adapted to its wants, rather than to gather those already scattered upon the ground. This is done with great skill and adroitness, while on the wing. Sweeping on the coveted twig, somewhat as a Hawk rushes on its prey, it parts it at the desired place, and bears it off to its nest. This fact is familiar to all who have attentively observed its habits. Each of these twigs is firmly fastened to its fellows by an adhesive saliva, secreted by the bird, and the whole structure is strongly cemented to the side of the chimney in which it is built by means of the same secretion. When dry, this saliva hardens into a glue-like substance, apparently firmer even than the twigs themselves. In separating a nest from the side of a chimney, I have known portions of the brick to which it was fastened to give way sooner than the cement with which it had been secured. When moistened, however, by long or heavy rains, the weight of their contents will sometimes cause them to part, and precipitate the whole to the bottom. The young birds cling very tenaciously to the sides of the chimney, with their strong claws and muscular feet, and often save themselves from falling, in such accidents, by this means, even at a very early age, and before they have attained their sight. As the nest, even when undisturbed, soon becomes too small for them, the young leave it long before they are able to fly, and climb to the top of the chimney, where they are fed by their parents."

The eggs, four to six in number, are pure white, unmarked, sub-elliptical in shape, and measure 0.75 by 0.50, or slightly more.

The power of flight possessed by these birds is unequaled by any other species. It is claimed by Wilson that "The Swallow flies, in his usual way, at the rate of one mile in a minute, and he is so engaged for ten hours every day; his active life is extended, on an average, for ten years, which gives us two million one hundred and ninety thousand miles—upward of eighty-seven times the circumference of the globe. And yet this littled winged seraph, if I may so speak, who, in a few days, can pass from the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottom of lakes, rivers, and mill-ponds, to bury itself in the mud with eels and snapping turtles, or to creep ingloriously into a cavern, a rat-hole, or a hollow tree, with snakes, toads, and other reptiles, till the return of spring. Is not this true, ye wise men of Europe and America, who have published so many *credible* narratives upon this subject? The Geese, the Ducks, the Cat-bird, and even the Wren, which creeps about our houses like a mouse, are all declared to be migratory, and to pass to southern regions on the approach of winter. The Swallow alone, on whom Heaven has conferred superior powers of wing, must sink in torpidity to the bottom of some pond, to pass the winter in the mud!" Upon the ground, the Chimney Swift moves with an awkward and helpless step. When upon the wing the powers of this bird, as it skims over the face of the country, now soaring upward to a great height, and now sinking suddenly down until it almost sweeps the ground; then, changing its course, it flies backward and forward with amazing celerity, pursuing its way with untiring speed, and not unfrequently indulging in a bath in the lake or stream over the bosom of which it delights to skim. This proceeding, like all its other evolutions on the wing, is rapidly and easily accom-

plished; the bird sinks close to the water, and suddenly darts beneath its surface, reappearing in less than a moment, and then flies off to a distance to shake the moisture from its plumage. The Swallow devours enormous numbers of flies, beetles, and butterflies. When in pursuit of prey, it either keeps near the ground, or skims through the air at an altitude regulated according to the barometical state of the atmosphere, insomuch that from this fact has arisen the popular idea that its movements indicate the kind of weather to be expected.

The length of this species is about five inches.

Purple Martin. (*Progne purpurea.*)

Fig. 8.

A very abundant species that is met with at suitable season, in most parts of North America. Its notes, which consist of a lively twitter, may be heard at the approach of day, after which prelude succeeds their excited musical chatter. Mr. Gentry, in his "Life Histories of Birds," says:

"Few species are more eminently sociable and confidential, and manifest greater pleasure in man's society, where suitable building conveniences are provided, than the subject of this sketch. . . .

"Constant association with man for many years has wrought a wonderful change in its character and habits. Except in special cases, nidification no longer takes place in hollow trees in secluded situations, but is now accomplished within our gardens and lawns. In the selection of a place, this bird is not very particular; an old tin can, or a perforated gourd, is as truly acceptable as the most costly structure which affluence can effect. When there is a scarcity of boxes, etc., it does not hesitate to dispute the right of another species; even the mischievous little Wren often finds its efforts to bar out intruders completely foiled. What this species can not accomplish individually, it effects by combination; for in union there is strength.

"Like the Blue-bird, it has a strong attachment to the scenes of past associations, and frequents the same localities year after year, unless driven away. Its quarrels with others frequently result from their pre-occupancy of accustomed sites.

"The great good which the Martins accomplish, should commend them to our favor and esteem, and should be an inducement for us to extend to them our warmest sympathies and fullest protection. The beetles that injure our fruits; the aphides that sap the strength of our useful as well as ornamental plants; the various dipterous insects, as *Musca domestica*, *Tabanus lineola*, *Musca cæsar*, and the *Ortalis* and its allies, whose larvæ infest our raspberries and other fruits, and produce the galls of many of our commonest plants.

"Like the Cliff and Bank Swallows, this species is fond of society. Where several apartments exist in a house, as many pairs take up their quarters; often six pairs have been known to occupy the same dwelling. The most perfect order and harmony prevail among the tenants; but woe to the feathered stranger that approaches; for the combined strength of the male portion of the entire community is summoned to wreak instant vengeance upon him.

"The males are strongly attached to their partners, and faithful and ever attentive to their wants. We are disposed to believe that the species arrives already paired, as we have never observed the least indication of anything that would lead to a different belief. When a male has once selected a partner, we know no instance where she has been abandoned, while living, for another, during the season for which she was espoused. In some cases, this alliance is dissolved at the close of the breeding-season, to be reassumed during the subsequent spring; in others, the separation is doubtless permanent, another taking the place of the discarded suitor; again, the union is life-long. We believe that this relationship, in some cases at any rate, with the present species is life-long, unless this important business is attended to at the time of setting out from its southern home.

Nest-building commences about the 15th of May, and is the joint labor of the sexes. A nest is two days in building. Scraps of paper, leaves, grasses, feathers, and bits of strings are utilized for this purpose. The whole is quite loosely arranged. Oviposition commences the day after the nest is completed, and lasts from four to five days, one egg being laid *per diem*. Incubation commences on the ensuing day, and continues for a period ranging from eleven to twelve days, according to meteorological vicissitudes, and the assiduity of the female. As we have not detected the male engaged in sitting, we presume that it is wholly performed by the female. While the latter is thus occupied, he is very attentive, thoughtful, and provident. They are both extremely assiduous in their attentions to the young, and feed them upon the larvæ of various lepidoptera, mosquitos, small spiders, and mature forms of *Tabanus lineola*, *Musca domestica*, and *Ortalis* and its allies.

"In about twelve days from the time of hatching, the young quit the nest, but still continue to be fed by their parents for a week more, when they are prepared to provide their own nourishment; still continuing, however, to reside with their parents. Occasionally two broods are reared annually. While the parents are engaged in rearing the second brood, the first is scouring the country for food, but returns in the evening to the place of common shelter, when suitable accommodations exist. In August, 1874, we were visiting in Bridgeton, N. J., and had the privilege of studying very minutely the history of this species. Close by the place where we were staying, was located a house of considerable capacity, and possessing a dozen apartments. These were occupied by as many pairs of birds early in the season. Two broods had been successfully reared. At the time to which we refer, all the young had attained maturity, and were dwelling with their parents. Early in the morning, the almost deafening clatter that emanated from the building, told that its inmates were astir and prepared to commence their daily avocation. The departure of one from the building was the signal for the rest to do likewise, which they did to the number of sixty and upward. Instead of leaving *instanter*, they kept circling around the house for at least ten minutes, chattering away at a fearful rate; and then, as if by common consent, struck off in divers directions, and were not seen again until sunset, when they returned to renew the circling movements of the morning, with the same amount of noise, when one by one, with as much regularity as the marching of soldiers, would drop into the building until the last had entered. A little din and chattering over the day's adventures, and all was quiet again. The presence of persons upon the scene did not cause the circle to waver in the least. Being very intent upon this sort of amusement, for such it seemed to be, nothing seemed to distract attention or cause desistance therefrom. The most unbounded confidence in man, acquired and strengthened by the peaceable enjoyment of his society for many years, has rendered this species exceedingly tame and unsuspicious. Few species manifest their trustfulness to such an extent. Their departure for warmer countries occurs usually about the 15th of September.

"Their eggs are oblong-oval, being pointed at one end, and of an unspotted, creamy-white color. They measure 0.93 of an inch in length, and 0.78 in breadth."

Violet-Green Swallow. (*Tachycineta thalassina.*)

Fig. 9.

This beautiful species is met with upon the table-lands of the Rocky Mountains, and its migrations extend through the middle and western provinces, to Canada, and south to Mexico. Dr. Cooper observes that it "frequents chiefly the groves of oak

along the sides of the valleys and across the whole coast range, excepting the windy and cold neighborhood of the sea. They range at least as far north as the Straits of Fuca, and across the interior to the eastern base of the Rocky Mountains."

"A well-known and often-recorded point in the economy of the Swallows is the readiness with which they modify their ways of nesting according to circumstances. Those species, like the Barn Swallows, the White-bellied and Cliff Swallows, and the Purple Martin, which inhabit populous countries, have almost completely changed their modes of nidification, now breeding in the convenient places afforded by buildings, or in shelters expressly provided for their use. In the case of the Cliff Swallows, the change is of very recent date, and many records are preserved of the precise time when, in particular localities, the birds deserted cliffs to build under eaves, or when, adopting this habit, they appeared and bred in places where they were before unknown. With the Purple Martins the nidification occurred earlier, and I am not aware that the time is recorded. But in the west both these birds still adhere to their primitive ways. Along the Missouri I saw great numbers of nests of Cliff Swallows stuck in batches on the high, vertical, water-worn exposures; and in Arizona the Martins occupied the blasted tops of tall pine-trees, in colonies, having driven off the Woodpeckers, the rightful proprietors of the holes that riddled the trunks. It becomes an interesting speculation, whether the Bank Swallow will ever abandon its burrows, and so far modify its fossorial nature as to build in chinks and crannies, or affix a nest anywhere about a building. As far as is now known, the Violet-green Swallow retains its primitive habits, but the same easy adaptability to varying circumstances may be observed in this case, warranting the inference that before long it will accept the conditions that civilization imposes, and breed about buildings like its allies." —*Coues.*

Loggerhead Shrike (*Collurio ludovicianus*) [Fig. 11], and the **White-rumped Shrike** (*Collurio ludovicianus*, var. *excubitoroides*) [Fig. 10].

This bird, which has much the appearance of a bird of prey, and much similar habits, is yet one of the singing birds, and though it may not exercise its gifts in this respect, much more than does the Blackbird and Crow of the same class, its structure shows it to be more nearly related to the Robin and Vireo than to even the smaller hawks.

The Loggerhead Shrike is found throughout the Southern States, and on the Pacific coast as far at least as Lower California. Its occurrence in the Mississippi valley is as far north at least as Columbus, Ohio, where it is of common occurrence. In that locality it is one of the first birds to arrive in spring, and frequently has its nest built and eggs laid in April.

As will be seen from the plate, its general appearance resembles that of the Mocking Bird, and for that bird it is often mistaken. Frequently the young are taken from the nest and sold for young Mocking Birds. Generally they die before their luckless possessor discovers his mistake, and if by chance they live, no sweet sounds will reward the care which has been bestowed upon them. Their common note is a harsh, creaky cry; while their song, which is comparatively seldom heard, is a rapid repetition of monotonous notes, not, however, unmusical. They frequent open country, and are especially attached to the bushy borders of field tall osage orange hedges. Their nest is usually built, with some attempt at concealment, in a low treetop covered with a wild grapevine, or in a dense bush. It is large and bulky, often lined with feathers. The eggs are four or five, grayish, thickly speckled over with brownish-ash. Their food consists, for the most part, of large insects, such as grasshoppers and crickets. They are noted for the curious habit of impaling grasshoppers and other prey upon thorns and twigs. No sufficient reason has ever been discovered why they do this.

The White-rumped Shrike is the northern variety of the Loggerhead, from which it differs in the genarally darker color of the upper parts, with a conspicuously whiter rump. It is found from Illinois to Wisconsin, north and west. In habits it does not differ from the Loggerhead. These birds may be distinguished from the Northern Shrike by their smaller size, darker colors, and uniform ashy white color beneath. The Northern Shrike has the under parts faintly barred with dusky ash, and is only found in winter, in localities frequented by the Loggerhead and White-rumped Shrike during the summer.

PLATE LXXVII.

Jer-falcon, or Gyr-falcon. (*Falco sacer*, var. *candicans.*)

Fig. 1

This species, a variety of the Jer-falcon—spelt also Ger and Gyr—inhabits Arctic America, North Greenland, Iceland, and Europe.

Brehm says: "They appear to prefer such rocky localities as are in the immediate neighborhood of the sea-coast, and upon which hundreds and thousands of sea birds settle during the breeding season; nevertheless, they do not entirely avoid the wooded parts of the country, for such amongst them as are too young to pair make long excursions inland, even occasionally visiting the mountain ranges of the interior, amongst which the old birds are rarely ever seen. The attachment of these various species to their breeding places is very remarkable; they return to them with such unfailing regularity that we were once accurately directed where to look for an eyrie, even though our informant had neither seen the spot, nor heard it spoken of, for many years. In their other habits they closely resemble the Peregrine Falcon. During the summer months it subsists upon sea birds, in the winter upon *Ptarmigans*, and, according to some naturalists, will devour hares, and live upon squirrels for whole months together. We were on one occasion for three days in the vicinity of the Nyker (two mountains much frequented by sea birds), and watched a pair of Gyr-falcons come down morning after morning punctually at ten o'clock, in order to obtain their breakfast. This was very speedily accomplished; both took a rapid survey of the feathered swarm they were about to attack, and then, swooping down with unerring aim, carried off one bird after another, until they had obtained the necessary supply. Howell mentions having seen a Polar Falcon pounce upon two Sea Gulls at the same time, and bear them away in triumph, one in each foot. They are also said to destroy Pigeons."

This species is about two feet in length.

Polar, or Iceland Falcon. (*Falco sacer*, var. *islandicus.*)

Fig. 2.

Closely allied to the last-named species, and recognized as a variety, by the darker markings on the upper parts of the body. Its habits and manners are similar.

PLATE LXXVIII.

Ruffed Grouse, Partridge, or Pheasant. (*Bonasa umbellus.*)

Fig. 1.

Although this species is generally known by the name of Ruffed Grouse, it is also called the Partridge in the New England

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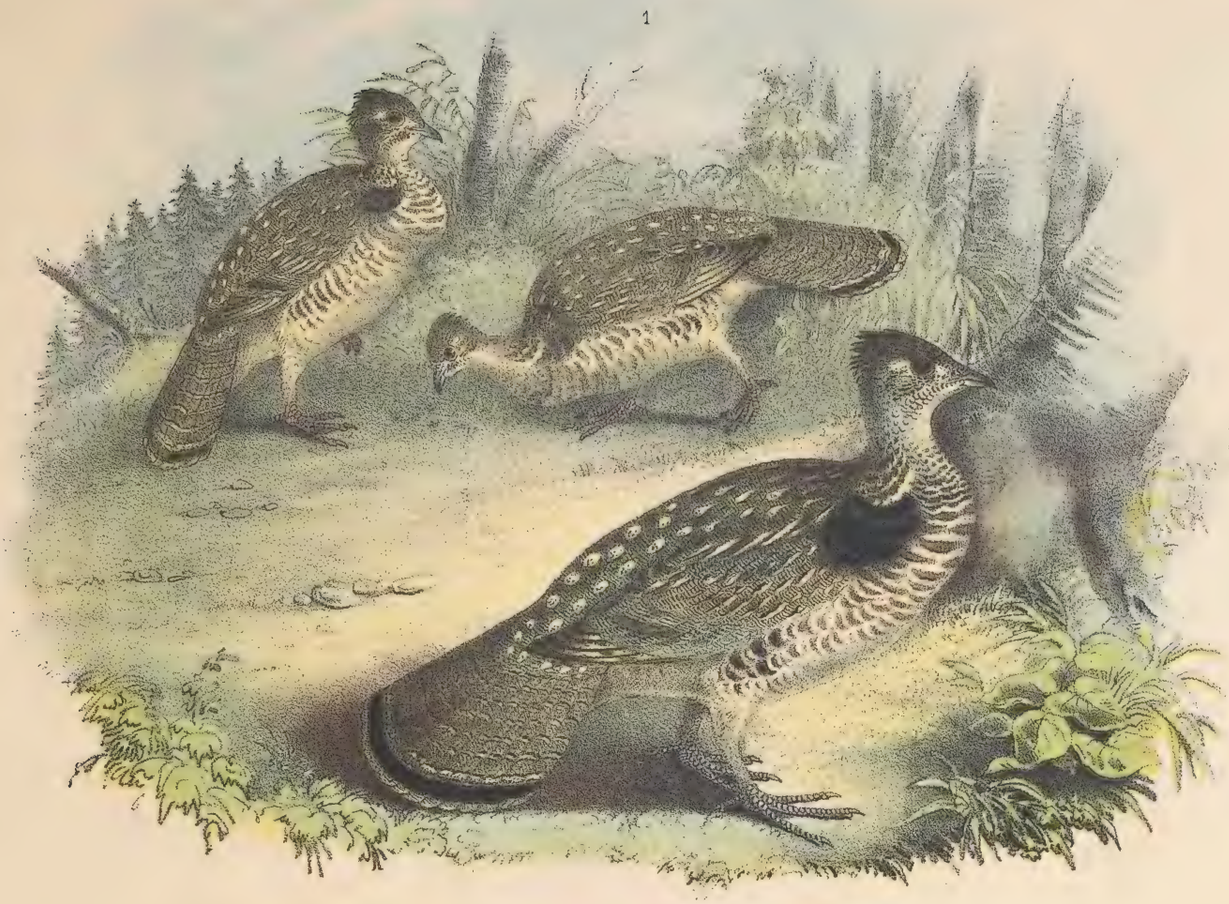
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and Middle States, and, in the Southern States it is named the Pheasant. The multiplication of names that this species has attained has caused considerable confusion, in regard to which Dr. Coues says:

"It is somewhat singular that a misapprehension should subsist, even among well-informed persons, in regard to this species. The confusion in the minds of some is, doubtless, partly due to the fact that the bird goes under different names in different parts of the country; and we are often asked, is it a Partridge, or is it a Pheasant?—to which reply may be made that it is *neither*, but a Grouse. 'Pheasant' is a name of a variety of birds of the family *Phasianidæ*, indigenous to Southern Asia, and not represented in this country at all. The best known species is that one long ago introduced into England, and there thoroughly naturalized. (The nearest American representative of the Pheasants is the Wild Turkey, which is sometimes included in the family *Phasianidæ*.) 'Partridge' is the name of a group of small gallinaceous birds, which, like the *Phasianidæ*, belong exclusively to the Old World, our American Partridges, so called, being quite a different set of birds. A poverty of our language in the matter of names of various American birds has caused them to become known by some term really belonging only to their (real or supposed) nearest European relatives. It would simplify matters much, to discard altogether the terms 'Pheasant' and 'Partridge,' by which this species is known in, respectively, the Northern and Southern States, and call it by its proper name of 'Ruffed Grouse.' The bird itself is unmistakable; no other species has the conspicuous ruffle of lengthened, broad, soft, silky feathers on the neck; and the only other species with any feathery neck-appendages is the Pinnated Grouse, where the appendages are like little wings of narrow, straight, pointed feathers. The Ruffed Grouse may be confounded by some with the Canada Grouse, or 'Spruce Partridge' (*Tetrao canadensis*), but this has no lengthened feathers on the neck, and is otherwise entirely different."

Parker Gilmore's account of this species, in his "Prairie and Forest," a valuable work, descriptive of the game of North America, says:

"This worthy member of a noble family loves the woodland glades and rocky hill-sides. The verge of the prairie he may occasionally visit, but let him be disturbed, his fears excited, like arrow from bow he will wing his way direct to the friendly shelter of the forest. But all woods do not suit the fastidious taste of this beauty; for when there exists only the fat, damp, slimy, bottom-lands, that margin so many of the southwestern rivers, he is not to be found. No, rolling country and hilly spurs are his home, where, deep in the shelter of the laurel, cedar, hemlock, hazel, and birch, he can laugh at his pursuers, unless they are the very quickest and best of shots. But I allude to where he has known man, and learned to dread his presence as ominous of evil; for, where such is not the case, if flushed, they are often satisfied to settle upon the first tree in the neighborhood, regarding the intruder with looks of wonder, and remain, gratifying their excited curiosity, till the whole covey have been shot in detail. Throughout Canada West they are numerous. At the northern end of Lake Simcoe I found them very abundant; also on the hillsides that cradle in the lovely, peaceful Lake Umbagog, in Oxford county, Maine; but western Maryland and Virginia are also favorite haunts; in fact, it may be found everywhere where wood, water, and hillside combine to form for it a suitable haunt, between thirty-two and fifty degrees of north latitude.

"In April, these birds pair. . . . They lay from ten to sixteen eggs; their nest, which is a very primitive one, being generally secreted in brush, or under the shelter of a fallen log. They are most affectionate parents, and use the same artifices as the Wild Duck to draw away the intruder from the vicinity of their youthful progeny. This Grouse has two distinct calls, one a soft, mellow, prolonged note, generally used in gathering after the covey has been broken up; the other, an extraordinary drumming sound, made by the cocks in the pairing season, and capable of being heard, in still weather, a great distance. The latter noise is caused by the rapid vibration of the wings when the male is perched on a fallen tree or stump. Indiscriminately, they live on a great variety of food—ants, grubs, alder-berries, wild cherries, and grain, being their favorite diet. Early in autumn, when the weather is fine, particularly in the morning and evening, they will be found in the open cultivation, more especially if there be rough ground with brush in the vicinity; but as severe weather approaches, the woods will become their constant resort. In shooting the Ruffed Grouse, great difficulty is always experienced in marking them. Their flight, as I have previously said, is wonderfully rapid, and they have a method of doubling back in the reverse direction to which they started; however, as they do not generally go far (about three or four hundred yards), with patience and a selection of the nearest irregular ground which has growing timber upon it, or the densest brush that is in the neighborhood, a second opportunity will probably occur of bringing more of the family to a bag. In many portions of the United States and Canada they are known by the misnomers of Partridge and Pheasant. Frequently, when trout fishing in the wilds of the State of Maine, I have come suddenly upon them, when they would rise into the nearest tree, and remain with unconcern watching me; from evident curiosity, they would stretch their necks, and get into all kinds of grotesque attitudes; and so little would they then regard the report of a gun, that I have known pot-hunters kill quite a number of the same family by always shooting the lowest first. But when the Ruffed Grouse becomes familiar with man, he is perfectly cognizant of the danger of being in his proximity. Although before dogs they lie close, their color harmonizes so well with that of the ground, that it is next to impossible to see them before they are on the wing.

"In the undergrowth which springs up in that portion of the country where the timber has been destroyed by fire, I ever found them very abundant, it being almost impossible to wander half a mile through such openings without flushing a covey. As these generally occur in the lumber regions, where the winters are particularly long and rigorous, far exceeding in severity those of Scotland, the hardiness of this bird can not be doubted. In the Alleghanies and all the southern ranges of hills of the United States it is also abundant, where, if the winters are less severe, the heat in summer is sometimes excessive, proving that the Ruffed Grouse is capable of enduring great varieties of climate.

"The palate of the most fastidious epicure can not fail to be gratified with the appearance of this game on the table, the flesh being extremely delicate, with a strong flavor of our Red Grouse. I have eaten it cooked in every conceivable manner, and whether it be simply roasted over a camp-fire, or form a portion of an *omnium gatherum* stew, it will be found alike acceptable. Although scarcity of food may compel this Grouse to change its beat, still it is not migratory, as stated by some naturalists. The supposition has arisen from their being found in great numbers, during summer and autumn, on the scrub barren land, which they leave as soon as the more severe weather commences, for the shelter of the dense timber. A family of these birds I was acquainted with for a year. On their range there was an abundance of food and water, and during that period I could always find them, their home being a little, hilly island in the prairie, covered with timber and brush, and detached from any irregular land by several miles of grass.

"Some authorities have placed Woodcock shooting first in the list, and called it the fox-hunting of those pleasures in which the dog and gun form the chief accessories. As far as present British field-sports are concerned, I believe they are correct; but, should the Ruffed Grouse be introduced, and Englishmen experience the suddenness of their rise, the velocity and irregularity of their flight, the uncertainty of their movements, and the beauty and size of this game when bagged, they would assuredly insert

a saving clause. I doubt not many—I believe all—of the warm admirers of shooting will agree with me that there is a superior pleasure in making a mixed bag—now a Mallard, next a Woodcock, perchance thirdly a Partridge, etc.; loading your discharged barrel, scarcely knowing at what description of game it will be used: thus a reason for their introduction to England."

This beautiful species is about eighteen inches in length, erect in form, and has a handsome chestnut brown color, dotted and pencilled with gray and brown spots on the neck, breast, and back. On each side of the neck are fan-shaped tufts of glossy, dark, purple-black, velvet-looking feathers, and on the top of the head there is a slight crest.

White-crowned or White-headed Pigeon. (*Columba leucocephala.*)

Fig. 2.

This species, well known as an inhabitant of Mexico and the West Indies, is also gregarious, and found in great numbers on the rocks of the Florida Keys, where they breed in society, and, when first seen in the spring, feed principally upon the beach plum and the berries of a kind of palm. From the peculiar selection of their breeding-places, they are known, in some of the West Indies, particularly Jamaica, San Domingo, and Porto Rico, by the name of Rock Pigeons. They likewise abound in the Bahama Islands, and form an important article of food to the inhabitants, particularly the young, as they become fully grown.

According to Audubon, they arrive on the southern keys of the Floridas, from the island of Cuba, from the twentieth of April to the first of May, remaining to breed during the summer season. They are at all times extremely shy and wary, remaining so indeed even while incubating, skipping from the nests and taking to wing without noise, and remaining off sometimes as much as half an hour at a time. In the month of May the young squabs are nearly able to fly, and are killed in great numbers by the wreckers who visit the keys. The nest is placed on the summit of a cactus shoot, a few feet from the ground, or on the upper branches of a mangrove, or quite low, impending over the water. Externally it is composed of small twigs, and lined with grass and fibrous roots. The eggs are two, white, rather yellowish, and as large as those of the domestic Pigeon. They have apparently several broods in the season. The cooing of this species may be heard to a considerable distance. After a kind of crowing prelude, he repeats his koo, koo, koo. When suddenly approached it utters a hollow guttural sound, like the common Pigeon. They are easily domesticated, and breed in that state freely. About the beginning of October they are very numerous, and now return to pass the winter in the West India islands.—*Nuttall.*

Ground Dove. (*Chamæpelia passerina.*)

Fig. 3.

This pretty little family is to be met with in the Southern States, usually south of the State of Virginia.

Nuttall says: "They are common in the sea islands of the Southern States, particularly of South Carolina and Georgia, where they are seen in small flocks of from fifteen to twenty. They are found usually upon the ground, and prefer the open fields and cultivated tracts to the woods. Their flight is seldom protracted, as they fly out commonly only to short distances; though on the approach of winter they retire to the islands and milder parts of the continent, arriving again at their northern resorts early in April. Like some other species they have a frequent jerking motion with the tail, and the usual tender cooing and gesticulations of the tribe."

"The Dove, generally speaking," says Wilson, "has long been considered as the favorite emblem of peace and innocence, probably from the respectful manner in which the name is mentioned in various parts of Scripture—it being selected from among all the birds, by Noah, to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend like a Dove from heaven, etc. In addition to these, there is in the Dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favor."

The food of this species consists of rice, seeds, and berries.

PLATE LXXIX.

Great White Egret, or White Heron. (*Ardea egretta.*)

Fig. 1.

"This fine bird may be immediately recognized by its color—pure white at all seasons, with yellow bill and black legs, with its large size—about three feet in length. The head is not adorned with a crest, but in the breeding season the back has a magnificent train drooping beyond the tail. The Little White Egret is much smaller, only about two feet long, and has a recurved crest, lengthened breast feathers, and a recurved train, in the breeding season. An erroneous impression prevails that an Egret is something different from a Heron; but all Egrets are Herons, although all Herons are not Egrets. It is a term applied to certain Herons, especially white ones, that have long plumes *(aigrettes);* but the distinction is entirely arbitrary. The Reddish Egret, for instance, and the Louisianan, are not white, while the small Green Heron has long, flowing dorsal plumes.

"Audubon has a paragraph upon this species susceptible of extensive application, and expressing a favorite idea of mine, strengthened into conviction by repeated observation. Speaking of finding Egrets much wilder in early spring than after they had settled to their duties of reproduction, he says: 'I have supposed this to be caused by the change of their *thoughts* on such occasions, and am of opinion that birds of all kinds become more careless of themselves. As the strength of their attachment toward their mates or progeny increases through the process of time, as is the case with the better part of our own species, lovers and parents perform acts of heroism which individuals having no such attachment to each other would never dare to contemplate. In these birds the impulse of affection is so great that when they have young they allow themselves to be approached so as often to fall victims to the rapacity of man, who, boasting of reason and benevolence, ought at such a time to respect their devotion.' No one unfamiliar with birds' natures, as exhibited at different seasons of the year, and at varying ages, can have adequate conception of the opposite traits they display. Even Doves, those meekest of birds—the emblems of 'peace on earth and good-will'—fight furiously when the *furor amantium* is on them; the wariest birds forget to consider personal danger in defense of their young; suspicious birds sometimes grow impudently familiar; knowing birds appear stupid; dull birds become frisky, and frisky birds beside themselves, when in love; silent birds cry out, and singing birds sing all the time.

"Another point may be mentioned here. The *young*, even of birds by nature shy and suspicious, require some time to get over their early verdancy and acquire a wholesome degree of caution. Instincts of this sort are undoubtedly hereditary, and sufficiently well marked to enable us to predicate it, in a certain greater or less degree, of all birds; and circumstances of subsequent experience, moreover, have much control over its development and exhibition. But, beyond these variations, it is unques-

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tionable that, other things being equal, young birds are for a while less wary than their parents, as certainly as in the case of our own species. The White Egret is an illustration in point. We are familiar with the difficulty that Audubon records of his experience in attempting to shoot these birds; and those of us who have tried can attest the same thing. But such strategy is not always required, late in the summer and early in the fall, to obtain birds of the year. At Fort Yuma, where the birds are very common, I had frequent occasion to wonder at their want of shyness in the fall, not to say their absolute stupidity. On one occasion that I remember I came upon a young bird that was quietly feeding at a little pool. Notwithstanding that I was on horseback and had come clattering along, the bird, not frightened at the noise and sudden appearance, merely drew itself up at full height to look a moment, and then bent its long neck again to resume its meal, within fifteen steps of me. It was to have been hoped that it could have lived long enough to learn better. Speaking in general terms, and without considering the artificial frame of mind brought about by man's interference, the shyness of any Heron corresponds exactly to its size; and it is so with many other birds, particularly Gulls—the larger the species, the more wary. The smaller kinds, as the Green Heron and the Least Bittern, show little concern at being approached. It would almost seem as if the greater birds were aware how likely to attract harmful attention their imposing appearance made them, and as if the little ones trusted to their insignificance for protection. It is only another interpretation of La Fontaine's crowned rats. The gradation in size among Herons calls up one other point. Such species as the Great Blue and the Great White are certainly to be considered of dignified bearing, and their motions have something of grace and beauty as well. But, though the Green, and the Least, and others have almost exactly the same form and the same attitudes and movements, they would never be called dignified or elegant birds. Analyzing this difference in the way the birds impress us, I can not see that anything but *size* is in question. This is the real secret; the large Blue Heron is dignified by its size alone; the little Green Heron, that copies every posture and action of the other, only succeeds in being grotesque, if not actually ridiculous—the more so from the very fact of its imitation. The parallel that may be drawn is a broad and long one.

"The White Egret is rather a delicate bird, preferring warm weather, and consequently restricted in geographical distribution. In New England it is only a rare visitor, and is not known to breed. I may here observe that a certain *northward* migration of some southerly birds at this season is nowhere more noticeable than among the Herons and their allies, the migrants consisting chiefly of birds hatched that year, which unaccountably stray in what seems to us the wrong direction. Massachusetts is the northernmost record of the species in New England. It is rather decidedly a maritime bird, like its smaller relative (*Ardea candidissima*), and seldom penetrates any distance inland except along our largest rivers—the Mississippi, Rio Grande, and Colorado. I never saw it in the interior of the Carolinas, along the coasts of which I found it very abundant, and throughout the low, flat, marshy or swampy districts. On the Pacific coast it is not recorded north of California. I met with it frequently in Southern California near the coast, and on a few occasions on the Mojave river, not far from Soda Lake, perhaps rather an exceptional inland locality, as the desert environing on all sides but one must be a great barrier. The Arizonian birds are gathered chiefly along the Colorado, particularly its lower portions."—*Coues.*

Trudeau's Tern. (*Sterna trudeaui.*)

Fig. 2.

This rare and remarkable species was first procured by J. Trudeau, Esq., of Louisiana. The coloration of its plumage is distinct and peculiar from that of any other species of Tern. There is hardly a doubt but what this bird is a distinct species of the Terns; but there is a doubt whether it is a North American species. Dr. Coues, one of our best informed ornithologists, says: "The only question is regarding the propriety of introducing the species among North American birds. For myself, I doubt that it was ever actually taken within our limits; but I have no means of disproving our author's positive assertion to that effect."

Sooty Tern. (*Sterna fuliginosa.*)

Fig. 3.

This is one of our well-known species, and in the southern parts of North America it is very numerous. To the navigators it is one of the indications of the near approach of land. They are mostly met with along the Atlantic and Gulf coasts. Audubon gives quite an extended account of this bird, from which we copy the following:

"Early the next morning I was put on shore, and remained there until I had completed my observation on the Terns. Having seated myself on the shelly sand, which here formed the only soil, I remained almost motionless for several hours, in consequence of which the birds alighted about me, at the distance of only a few yards, so that I could plainly see with what efforts and pains the younger females deposited their eggs. Their bills were open, and their pantings indicated their distress; but after the egg had been expelled, they immediately walked off, in an awkward manner, until they reached a place where they could arise without striking the branches of the bushes near them, when they flew away. Here and there, in numerous places within twenty yards of me, females, having their complement of eggs, alighted and quietly commenced the labor of incubation. Now and then a male bird also settled close by, and immediately disgorged a small fish within the reach of the female. After some curious reciprocal nods of their heads, which were doubtless intended as marks of affection, the caterer would fly off. Several individuals, which had not commenced laying their eggs, I saw scratch the sand with their feet, in the manner of the common fowl, while searching for food.

In the course of this operation they frequently seated themselves in the shallow basin, to try how it fitted their form, or find out what was still wanted to insure their comfort. Not the least semblance of a quarrel did I observe between any two of these interesting creatures—indeed, they all appeared as if happy members of a single family; and, as if to gratify my utmost wishes, a few of them went through the process of courtship in my presence. The male birds frequently threw their heads over their backs as it were, in the manner of several species of Gulls; they also swelled out their throats, walked round the female, and ended by uttering a soft puffing sound as they caressed them. Then the pair for a moment or two walked round each other, and at length rose on wing and soon disappeared. Such is one of the many sights it has been my good fortune to witness; and by each of them have I been deeply impressed with a sense of the pervading power of the Deity.

"The Sooty Tern always lays three eggs as its full number. . . . When wounded and seized by the hand, this bird bites severely, and utters a plaintive cry, differing from its usual note, which is loud and shrill, resembling the syllables oo-ee, oo-ee. Their nests are all scooped near the roots or stems of the bushes, and under the shade of their boughs—in many places within a few inches of each other. They generally measure two inches and one-eighth by one and a half, have a smooth shell, with the ground of a pale cream color, sparingly marked with various tints of lightish umber, and still lighter marks of purple, which appear as if within the shell."

King Rail; Fresh-water Marsh Hen. (*Rallus elegans.*)

Fig. 4.

This beautiful bird is met with in the fresh-water marshes along the Atlantic coast, in summer, and in winter in the more Southern States. Its habits are about the same as that of the species described on page 3.

PLATE LXXX.

Great Blue Heron. (*Ardea herodias.*)

Fig. 1.

Most all Herons are large and ungainly birds; and they are met with in most parts of the globe. In North America the Blue Heron is restricted to the warmer parts, and at the approach of winter, or when their supply of food falls short, it migrates into the tropical parts of the continent. Swamps, shallow rivers, and pools are their favorite haunts, and in these they quietly stand, with their necks drawn down between their shoulders, watching the approach of a fish, upon which they suddenly dart, and seizing it in the beak, swallow it in an instant. They also consume small quadrupeds, frogs, and a variety of insects.

Coues says: "No species of Heron has a wider distribution in North America, and only the Bittern equals it in the extent of its dispersion. It appears to be more common, however, in the United States than farther north, and is resident south of the middle districts. Herons, as a group, are rather southern birds; only these two just named (Glossy or Bay Ibis; Great Blue Heron) proceed beyond the United States, and most, if not all, are more abundant in the southern portions of the Union. They are particularly numerous in the South Atlantic and Gulf States, where they breed by thousands, and in which districts several species occur that are not found in corresponding latitudes in the West. On the Pacific side we have no peculiar species, all that occur there being of wide distribution."

Of the nest the same writer says: "Wherever placed, on tree, bush, or rock, the nest of the Heron is a large bed of twigs, more or less matted together with grasses and weeds, some two feet in diameter and about one-third as high. Two or three eggs are laid, probably never more. They measure 2.50 by 1.50, and are rather narrowly elliptical, with both ends of about the same shape; the color is a pale, dull, greenish blue, varying in shade in different specimens, but always uniform on the same egg."

White Ibis. (*Ibis alba.*)

Fig. 2.

Scarlet Ibis. (*Ibis rubra.*)

Fig. 3.

The habits and characteristics of these two species are about the same. Their native haunts are Central America and the northern portions of South America as far as the Amazon; from thence they extend their migrations in summer into the most southern portions of the United States, rarely ever proceeding farther north than Carolina. Along the borders of the sea and the shores of adjacent rivers, these birds are to be met with, from which they seldom extend far inland. Mr. Bartram says: "They fly in large flocks or squadrons, evening and morning, to and from their feeding-places or roosts, and are usually called 'Spanish Curlews.' They subsist principally on cray-fish, whose cells they probe, and, with their strong pinching bills, drag them out." Fry and aquatic insects also constitute a part of their food.

The flight of these beautiful species is said to be lofty and strong, and as they pass through the air they utter a loud and peculiar cry. Their flesh is not held in very high esteem, although it is sometimes eaten.

According to Sagra, the eggs, three or four in number, are laid upon the ground, and have a greenish shell. Schomburghk states that young and adult birds do not associate with each other, but unite in distinct bands.

The White Ibis is about twenty-three inches long, and thirty-seven in extent. The Scarlet Ibis has about the same measurement.

PLATE LXXXI.

Short-eared Owl. (*Brachyotus palustris.*)

Fig. 1.

This species is pretty generally distributed throughout North America, and in the temperate parts is said to be abundant. It exhibits no fear of man, and may frequently be seen perching upon the trees that grow near crowded thoroughfares. During the day they conceal themselves under the vines, or among the branches of trees, the stems of which they so much resemble in color as to be in but little danger of detection, so long as they remain quiet. It is not until evening has fully set in that they sally out in quest of food, and hover, with something of the movement of a Falcon, close to the surface of the ground, in quest of mice and similar fare.

"The specific name of this species," says Coues, "is highly appropriate, such is its preference for low, moist, and even swampy or marshy resorts. It is, however, one of the few species not confined to woods, but occurring in open prairie, sometimes many miles from timbered land. It nests on the ground, laying its eggs either in a bare depression, or upon a few sticks or feathers, or a little grass. The eggs, usually four or five in number, are dull white, less nearly spherical than usual in this family, and measure about an inch and a half in length by one and a fourth in breadth. But its nesting varies with circumstances. Mr. Dall recently found it breeding in burrows, on the island of Oonalashka; 'the hole is horizontal, and the inner end usually a little higher than the aperture; lined with dry grass and feathers.' The burrows were not over two feet deep, usually excavated in the side of a steep bank."

Mottled Owl, Red Owl, or Screech Owl. (*Scops asio.*)

Fig. 2.

Although this species appears represented on the plate in different coloration of its plumage, it is one and the same bird; the difference in color is without any known cause. It is one of our best known and most abundant species. Mr. Maynard contributes an interesting account of this species to the American Naturalist, Vol. I., page 73, which reads as follows: "On June 15, 1867, I observed some boys around a small Owl, which was perched on a stick; on closer examination I found that it was a young Mottled Owl (*scops asio bonaparto*). It was staring about in a dazed manner, and seemed half stupefied. I easily persuaded the boys to part with it for a trifle, and took it home. I should judge that it was about two weeks old. It was covered with a grayish down. I put it in a large cage, and gave it some meat, which it ate, but not readily, for it seemed frightened at the sight of my hand; and at my near approach, would draw back, snapping its beak after the

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manner of all Owls. It soon grew tamer, however, and would regard me with a wise stare, as if perfectly understanding that I was a friend.

"In a short time it would take food from me without fear; I never saw it drink, although water was kept constantly near it. Its food consisted of mice, birds, and butchers' meat, on which it fed readily. I kept the bird caged for about two weeks, during which time it became quite tame, but would not tolerate handling, always threatening me with its beak, when my hands approached it. As the wires of its cage broke its feathers, when moving about, and as it hardly seemed resigned to confinement, I opened its cage and gave it the freedom of the room, leaving the windows open nights and day. About this time I gave it the name of 'Scops,' to which in a little while it would answer, when called, with a low rattle, which sounded like the distant note of the Kingfisher.

"One morning, Scops was missing; diligent search was made for it, but no Owl could be found, and, reluctantly, we gave it up for lost. Once or twice it was seen in the neighboring woods by different people, and once on the roof of a barn, but was wild, and refused to be caught. It had been absent about a week, when, one morning, I was told that my Owl was out in the yard. I hastened out, and found a half-grown Newfoundland dog playing with my pet. The Owl was clinging to his shaggy fur with its claws, snapping its beak, and biting fiercely. I immediately rescued poor Scops, and carried it into the house. On arriving in its old quarters it seemed pleased, chuckling to itself after its manner. It was almost starved, and ate two full-grown Bluebirds at the first meal. After this time I gave it the privilege of going and coming when it pleased; but, mindful of its former experience, it never has but once remained away more than two days at a time. It now became more attached to me than ever, and will, at this time, permit me to pat it gently.

"When a bird is given it for food, it takes it in its claws, and, with its beak, it invariably pulls out the wing and tail feathers first, then eats the head, then devours the intestines; then, if not satisfied, it eats the remainder of the bird, feathers and all. That this Owl sees tolerably well in the daytime I have proved to my satisfaction. I caught a mouse and put it alive into an open box about two feet square; this I placed upon a bench near Scops, who was attentively watching my movements. The moment it saw the mouse, the owl opened its eyes wide, bent forward, moved its head from side to side, then came down with an unerring aim, burying its talons deep in the head and back of the mouse. Looking up into my face, and uttering its rattling noise, as if inquiring, 'Is n't that well done?' it flew up to its perch, with its struggling prey grasped firmly in its talons, when it killed the mouse, by biting it in the head and back. During the whole act it displayed considerable energy and excitement. In sleeping, it usually stands on one foot, both eyes shut; but sometimes stretches out at full length, resting on its breast. When sound asleep, it awakes instantly on its name being pronounced, and will answer as quickly as when awake. I have heard it utter its peculiar quavering note on one or two occasions, which, notwithstanding its reputed mournfulness, has much that sounds pleasant to my ear. When out at night among the trees, Scops acts in much the same manner as when in the house—hopping from limb to limb, looking about with a quick, graceful motion of the head, sometimes turning the head around so that the face comes directly behind. The alarm note is a kind of a low moan; this was often uttered at the sight of a gray squirrel, and always at the sight of its old enemy, the dog.

"While flying, Scops moves through the air with a quick, steady motion, alighting on any object without missing a foothold. I never heard it utter a note when thus moving. When perching, it does not grasp with its claws, but holds them at some distance from the wood, clasping with the soles of the toes. When it has eaten enough of a bird, it hides the remaining portions in any convenient place near by. If its hiding-place is then approached, the owl from its perch watches the intruder jealously, and when its hidden spoils are touched, it lays back its ear-like tufts, snaps its beak once or twice, and drops down on the unlucky hand like an arrow, striking it with its sharp claws until the hand is withdrawn; then, ascertaining that its treasure is safe, Scops resumes its perch, looking at its late disturber with most unfriendly eyes. I once placed a stuffed Owl of its own species near it, when it ruffled its feathers, gave a series of hisses, moans, and snappings of the beak, and stretched out one wing at full length in front of its head, as a shield to repulse what it took to be a stranger invading its own domains. As the stuffed bird was pushed nearer, Scops budged not an inch, but looked fiercer than ever; its ruffled back feathers were erected high, its eyes sparkled, and its whole attitude was one of war.

In the work, 'The Birds of New England,' are given two instances of this bird's first plumage being in the red; but my bird is decidedly in the gray. If it is red at all, it must be at some time hereafter."

Mottled Owl, Screech Owl, or Red Owl. (*Scops asio.*)

Fig. 2.

This is one of our small and beautiful species. It is abundant in most all parts of North America. The food consists of mice, small birds, beetles, crickets, and insects generally. The nest is found built in the hollow of old trees, about the last of May or early in June, and is lined with hay, grass, and feathers. The eggs are usually about five, and are nearly round, and white in color.

Nuttall says: "During the day they either retire into hollow trees and unfrequented barns, or hide in the thickest evergreens. At times they are abroad by day, and in cloudy weather they wake up from their diurnal slumbers a considerable time before dark. In the day they are always drowsy, or, as if dozing, closing, or scarcely half opening their heavy eyes, presenting the very picture of sloth and nightly dissipation. When perceived by the smaller birds, they are at once recognized as their insidious enemies; and the rareness of their appearance before the usual roosting-time of other birds, augments the suspicion they entertain of their feline hunters. . . . Their notes are most frequent in the latter end of summer and autumn, crying in a sort of wailing quiver, not very unlike the whining of a puppy dog, ho, ho, ho, ho, ho, ho, proceeding from high and clear to a low guttural shake or trill. These notes, at little intervals, are answered by some companion, and appear to be chiefly a call of recognition from young of the same brood, or pairs who wish to discover each other after having been separated while dozing in the day. On moonlight evenings this slender wailing is kept up nearly until midnight." This species is from eight to ten inches long.

Red-shouldered Hawk or Buzzard. (*Buteo lineatus.*)

Fig. 3.

This handsome species is represented in its adult plumage. Prof. Verrill, in comparing Maine and Florida species, finds that those of southern birth are considerably smaller than the average. It is very abundant in the Atlantic States.

According to Nuttall, "In the Southern States, during winter, they are very common in swampy situations, where their quailing cry of mutual recognition may be heard from the depths of the dark forest almost every morning of the season. This plaintive echoing note resembles somewhat the garrulous complaint of the Jay, kee-oo, kee-oo, kee-oo, continued with but little intermission sometimes for near twenty minutes; at length it becomes loud and impatient, but on being distantly answered by the mate, the sound softens and becomes plaintive, like kee-oo. This morning call is uttered most loudly and incessantly by the male, inquiring for his

adventurous mate, whom the uncertain result of the chase has perhaps separated from him for the night. As this species is no ways shy and very easily approached, I have had the opportunity of studying it closely. At length, but in no haste, I observed the female approach and take her station on the same lofty, decayed limb with her companion, who, grateful for this attention, plumed the feathers of his mate with all the assiduous fondness of a Dove. Intent upon her meal, however, she soon flew off to a distance, while the male still remained on his perch, dressing up his beautiful feathers, for near half an hour, often shaking his tail, like some of the lesser birds, and occasionally taking an indifferent survey of the hosts of small chirping birds which surround him, who followed without alarm the occupation of gleaning seeds and berries for subsistence. I have occasionally observed them perched on low bushes and stakes in the rice-fields, remaining thus for half an hour at a time, and then darting after their prey as it comes in sight. I saw one descend upon a Plover, as I thought, and Wilson remarks their living on these birds, Larks, and Sandpipers. The same pair that I watched, also hung on the rear of a flock of Cow-buntings which were feeding and scratching around them." The length of this species is about twenty-two inches, the wing fourteen, and the tail nine inches.

Black Rough-legged Hawk, American Rough-legged Hawk, or Rough-legged Buzzard. (*Archibuteo lagopus, var. Sancti Johannis.*)

Fig. 4.

This bird is usually to be met with in Middle Atlantic and New England States. It is also found in the West. In early summer it migrates to the fur countries, remaining there until October. According to Coues:

"Its migrations appear to be quite regular and extensive—more so, perhaps, than is generally supposed—though probably it does not differ from most Hawks in this respect. Birds of this family must follow their prey, wherever this leads them, and only a few of the more powerful species, able to prey upon hares and Ptarmigan, pass the winter in our highest latitudes. The Rough-legged is a rather northerly species, rarely, if ever, breeding within the limits of the United States, and becoming rarer toward its southern terminus. On the Atlantic coast I have no authentic evidence of its appearance south of the United States, the maritime portions of which may be regarded as its winter headquarters. It is represented as being particularly numerous in the low land along the Delaware and Schuylkill rivers. It winters thence northward into Maine at least, where Prof. Verrill and others have found it common at that season. It also endures the rigor of the year in parts of the Missouri region, though probably not the northernmost. Allen found it wintering in Wyoming. I took a single specimen at Fort Whipple, in Arizona, in the winter of 1865, and Dr. Kenneley observed the species at Zuni, in New Mexico, in November. This brings its range almost to the Mexican border. The continuous mountain chains probably account for its range in this longitude beyond that it completes on the Atlantic. Dr. Cooper thinks it only a winter visitor in California, where he did not observe it beyond Santa Clara Valley, but surmises it may breed in the mountains of the State, as he saw it on the Columbia in July.

"Notwithstanding their size and apparent muscularity, Hawks of this genus have none of the dash and spirit of the Falcons, and indeed seem inferior to the Buteos in this respect. Their quarry, though diversified, is always humble; they prey upon various field mice and other very small quadrupeds, lizards, and frogs, and even insects, rarely attacking birds of any kind, and then only the most defenseless. Open fields, especially in the vicinity of water, are their favorite resorts. They appear heavy and indisposed to active exertion, flying slowly and heavily, and often remaining long motionless on their perch. They show some analogy to the Owls in points of structure, as well as in their partially nocturnal habits. This has long been noticed. Sir John Richardson says 'In the softness and fullness of its plumage, its feathered legs and habits, this bird bears some resemblance to the Owls. It flies slowly, sits for a long time on the bough of a tree, watching for mice, frogs, etc., and is often seen sailing over swampy pieces of ground, and hunting for its prey by the subdued daylight, which illuminates even the midnight hours in the high parallels of latitude.' Wilson observes that it habitually courses over the meadows long after the sun has set, and Audubon calls it the most nocturnal of our species.

"The nest, which I have never seen, is said to be ordinarily built of sticks, etc., in a high tree; sometimes, however, on cliffs, as noted by Dr. Brewer. The eggs, three or four in number, and measuring about $2\frac{1}{3}$ by $1\frac{3}{4}$ inches, run through the usual variations, from dull whitish, scarcely or not at all marked, to drab or creamy, largely blotched with different shades of brown, sometimes mixed with purplish-slate markings."

PLATE LXXXII.

Roseate Spoonbill. (*Platalea ajaja.*)

Fig. 1.

The habitat of this bird is confined to the South Atlantic and Gulf States. His northern limit is North Carolina, where he is of extremely rare occurrence. He is a constant resident of the southern extremities of the peninsula of Florida, and is extremely abundant along the northern shores of the Gulf of Mexico, and particularly of Galveston Bay. His favorite haunts are the marshy and muddy borders of ocean bays, the mouths of rivers, and bush-covered islands, where, in the midst of an abundance of food, he is enabled to breed in perfect security. The Indian river, Florida, is another favorite breeding place, and here, in a single day, one person has been known to kill sixty of these birds. The flesh is tough and oily, but the feathers are very beautiful, and are made into fans. So great is the demand for these feathers, that, at St. Augustine, birds bring from one to two dollars each. The Roseate is a very shy bird, and one extremely difficult to kill. He is somewhat gregarious, associating with the Herons, and when feeding, one of the number always acts the part of police. He flies with his neck stretched forward to its full length, legs and feet extended behind, and is possessed of much grace when on the wing. When he alights, his wings expand, and, passing at least twice over the spot, comes gently to the ground. He is essentially nocturnal, though, when the tides are low, he is frequently seen feeding by day. Few birds keep better watch of these ebbs and flows, and when the tides are favorable, he may be seen standing knee-deep in water, with his whole head and neck immersed in the soft mud, searching for the small shell-fish, which are his favorite food. His nest is usually made on the top of the mangrove, is flat, and is formed of sticks of considerable size, and is exceedingly coarse in construction. In this platform-like nest three eggs are usually laid, the last not later than the middle of February. These eggs are pure white, the shells slightly granulated, are equally rounded at both ends, and measure 2.62 by 1.87 inches. By the first of April the young are hatched, but it is not until the third year that they attain full plumage, and for several seasons after they continue to increase in size.

Qua-bird or Skuak—Night Heron. (*Nyctiardea gardeni.*)

Fig. 2.

The Sqawk or Night Heron is a common resident of the United States and British Provinces. He breeds abundantly in New

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England, and winters in the South. He is found in Mexico, Central and South America, and the West Indies. He seldom advances very far inland from the marshy coasts where he breeds. These breeding places are usually occupied for many years, and are only abandoned under the most relentless persecutions. They are located in low, wet, and, as far as man is concerned, almost inaccessible swamps, surrounded by stagnant waters. The nest is built sometimes near the ground, sometimes in the top of some tall evergreen, a hundred feet in the air. It is large, flatish, formed of sticks carelessly laid together, and so loosely arranged as to frequently need repair. This nest is built out on the branches or against the trunk of the tree, as is most convenient; and hundreds of them will be found in a single heronry, frequently three or four on a single tree. The eggs vary in number, running all the way from three to seven. They are thin-shelled, and in color are plain light seagreen. The young are soft and downy, and at first are very helpless, but they soon gain in strength, and climb to the upper branches, where, hanging by their bill and claws, they are fed by the parent bird. Two broods are raised every season, and the first brood is frequently seen gathered around the nest in which their younger brothers and sisters rest, waiting with them to be fed. They are omnivorous eaters, and must tax the industry of their parents to the utmost. There are few things in nature more repelling than one of these heronries. The treacherous, water-sogged surface of the swamp will be white with the excrements of the birds, the air hot, close, and insufferable with its penetrating odor, and fine particles of these excrements floating in the air will cause the perspiring body of the intruder to smart wherever they touch. Decaying fish are everywhere, slowly rotting, and intensifying the intolerable stench; while, at the approach of the intruder, the air is filled with a clamor like the breaking out of Pandemonium. The flight of the Night Heron is slow, steady, and greatly protracted. With head and shoulders drawn in, with the legs and tail stretched out behind, they propel themselves by regular and measured flapping of the wings. They migrate at night, when their passage is indicated by the hoarse croakings, which resemble q-u-a-w-k. His food consists of fish, shrimps, tadpoles, frogs, leeches, and mice; and when he has dined to his heart's content, he will retire to some high tree, and there, resting upon one leg, will doze motionless for hours. Before he attains his perfect state, he undergoes three annual plumages. According to Dr. Abbott, they winter near Trenton, N. J., in small numbers. He arrives in his northern breeding grounds early in April, and remains until very late in the autumn.

Louisiana Egret—Louisiana Heron. (*Ardea leucogastra, var. leucoprymna.*)

Fig. 3.

This beautiful Heron is confined mostly to the Southern Atlantic and Gulf States. He is a constant resident of the southern peninsula of Florida, and is found along the whole Gulf of Mexico, extending up the Mississippi as far as Natchez. He is a sociable bird, and is found in company with the White Egret and the Blue Heron. His nest is built close to the sea shore, on low bushes, and in close proximity to those of his kind. It is formed of small dry sticks, laid across each other in various ways, is nearly flat, and has but little lining. The eggs are usually but three in number, very thin-shelled, nearly elliptical, smooth, of a beautiful pale blue color inclining to green, and measure 1.56 by 1.25 inches. Incubation continues but three weeks, and but one brood is raised during the season. The young do not obtain their full plumage until the second year, while they increase in size for some time after. The flesh of the young is fairly prized for eating; his own food consisting of worms, slugs, snails, tadpoles, aquatic lizards, and insects. The Louisiana Heron is very graceful in all his movements, and extorted from Audubon the name of "Lady of the Waters." We quote from the latter's somewhat florid diction: "Watch its motions," he says, "as it leisurely walks over the pure sand beaches of the coast of Florida, arrayed in the full beauty of its spring plumage. Its pendent crest exhibits its glossy tints, its train falls gracefully over a well-defined tail, and the tempered hues of its back and wings contrast with those of its lower parts. Its measured steps are so light that they leave no impression on the sand, and with its keen eye it views every object around with the most perfect accuracy. See, it has spied a small fly lurking on a blade of grass; it silently runs a few steps, and with the sharp point of its bill it has already secured its prey. The minnow just escaped from the pursuit of some larger fish, has almost rushed upon the beach for safety; but the quick eye of the Heron has observed its motion, and in an instant it is swallowed alive."

Yellow-crowned Night Heron. (*Nyctherodius violaceus.*)

Fig. 4.

The range of this Heron is confined to the South Atlantic and Gulf States, and to South America. He breeds in bayous and low thickets. He is alike diurnal and nocturnal in his habits, and subsists on aquatic and terrestial animals, eating young birds, snakes, small quadrupeds, leeches, lizards, crabs, snails, and fish. His nest is determined by the abundance of food, and is placed high or low as circumstances may require, sometimes in the very top of the loftiest cypress, and again in low bushes. This nest is very like that of other Herons, being formed of dry sticks very loosely put together, mixed with a few weeds, and sometimes scantily lined with fibrous grasses. The eggs are rarely more than three, very fragile, pale blue, inclining to green in color, and measuring about 2.00 by 1.25 inches. The young leave the nest before they are able to fly. The difference in latitude determines the time at which the young are hatched; the further north the later the period of incubation. The beautiful slender plumes on the head and back usually fall off after the period of courtship, when the female commences her task of warming her eggs to life. The young birds, when just ready to fly, are much prized for food, the older ones being tough and unsavory. The flight of this bird is rather slow and not nearly so long protracted as that of the Night Heron. When surprised, he rises almost perpendicularly for thirty or forty yards, and then sails slowly away. When on the ground he lacks the delicacy and grace of many of his compeers, picking up his food after the manner of the barn-yard fowl. His migratory movements are usually performed at night, and his sight at such times is remarkably keen. When wounded, he defends himself vigorously, inflicting severe wounds with his bill and claws.

PLATE LXXXIII.

Brant Goose—Black Brant—Brant or Brent. (*Bernicla brenta.*)

Fig. 1.

The Brant is found all along the Atlantic coast of North America and Europe. He breeds in the Arctic regions, and spends his winters in the south. His southern migrations extend throughout the fall months even into December, and his return is made during the month of April. These migrations are made in great numbers, collected together in one body, and at a great height in the air. They are invariably over the waters of the ocean, sometimes far seaward, and long detours are frequently made to avoid some projecting point of land. The Brant spends his nights at sea, cradled by the billows, and at early dawn repairs to muddy flats, sandbanks and low bars where he feeds. His food consists entirely of

marine plants, particularly of the *Zostera marina*, or eel grass, of which he is very fond. He prefers to take his stand away from marshy ground, where, if undisturbed, he will continue busily to feed until the rising tide takes him on its bosom and floats him off to sea. He is very local in his attachments, returning from year to year to the same feeding grounds. He does not associate much with other waders, though sometimes seen feeding in their vicinity. His flesh is highly esteemed, and by some is considered nearly as good as that of the Canvas-back. He is a shy bird and not easily approached, and is said to dive only when he is wounded. His flight resembles that of other geese, being slow and sedate. When the weather is boisterous he finds shelter in estuaries and rivers. Dr. Coues says that when ascending the Mississippi, he observed vast numbers in flocks on the banks and mud bars of that river, and he reports him as rare or casual on the Pacific coast. His nest is very coarsely constructed, and the eggs are pure white. The female, though smaller than the male, resembles him. In flight, they make a trumpet-like noise, which, heard at a distance, is said to resemble that of a pack of harriers or fox-hounds in full cry.

Ruddy Duck. (*Erismatura rubida.*)

Fig. 2.

This Duck inhabits the whole of North America, and is abundant throughout the interior. He is equally fond of salt, brackish, or fresh water, and is found on the sea-coast as well as the lakes and ponds of the interior. In his migrations he follows the sea-coast or the courses of our rivers. His flight is rapid, and accompanied with a whirring sound. He rises from the water with considerable difficulty, being obliged to assist himself with his broad webbed feet, and, as it were, run for some way upon the water. When once on the wing he sustains himself with much ease, and makes extended journeys. In the water he moves with much elegance and ease. He is extremely expert at diving, by which means he obtains his food, which consists of the roots and blades of grasses, the growth of fresh-water ponds, while on the sea-coast he devours crabs, fiddlers, and kindred marine animals. His own flesh, when he is fat and young, is highly esteemed. His note is low and closely resembles that of the female Mallard. When wounded he immediately dives, and if taken alive is very pugnacious. He is not a shy bird, and will allow a very near approach. He is also a very sociable bird and frequents the company of Teals, Scaups, Shovellers, and Mallards. His breeding habits are not yet fully understood. Dr. Coues found him breeding abundantly on the line of the 49th parallel, between Dakota and the British Provinces, as late as July. Mr. Ruthven Deane found two in the Boston market, on the 10th of September, with wings not sufficiently fledged to fly. These were shot at Cape Cod. They migrate southward, in large flocks, through Massachusetts during the months of October and November.

Black Guillemont—Sea Pigeon. (*Uria grylle.*)

Fig. 3.

The Black Guillemont is confined to the northeastern coast of America and Greenland. In winter he strays as far south as New Jersey. His nest, according to Audubon, is made of smooth, small pebbles, which he brings from a distance in his mouth for the purpose. These pebbles are shaped into a regular nest, and are laid up about three inches high. When, however, the spot selected for a nest is situated so as to preclude all dampness, no attempt is made at nest-building, the eggs being laid on the bare rock. These eggs are three in number, are white, and thickly spotted with dark brown, especially around the larger end. They are disproportionately large, measuring 2.37 by 1.62 inches, and are highly prized as an article of food. Before the young are able to fly, they are led to the water by their parents, where they swim and dive with great ease. The Guillemont's favorite breeding place is about the different entrances to the Bay of Fundy and on the rocky shores of the island of Grand Manan. Here, wherever a fissure in the rock may be seen, one of these birds, during the period of incubation, is pretty sure to be found. His flight is very rapid and long continued, and as he propels himself through the air, the black of his lower part and the white of his wings alternately appear. On shore he walks with more than ordinary ease, and steps from rock to rock with the aid of his wings. His food consists of shrimps and other marine animals. In Hastings' Polar World, we are informed that St. George, of the Pribiloro Island, off Russian America, is inhabited in common by Sea Lions and Black Guillemonts, the latter having taken possession of the places unoccupied by the former, where they fly fearlessly among them, or nestle in the crevices of the water-worn rock-walls, or between the large boulders which form a bank along the strand.

Red-throated Diver. (*Colymbus septentrionalis.*)

Fig. 4.

The range of this Diver extends from the Arctic seas to Maryland, and he is also found on the Pacific coast. He breeds in May and June, choosing for his nest some small, sequestered island, in the middle of a lake or large pond of fresh water, lying near the sea-shore. His nest consists of a few blades of grass loosely put together and without lining. This nest is placed within a few feet of the water, with a well-beaten track leading from it to the shore. He never alights upon the land, and before going to his nest, swims all around it, carefully reconnoitering, and if free from danger, crawls silently out of the water, and then slowly waddles to it. But three eggs are laid, deep olive brown in color, marked irregularly with spots of dull dark brown, and measuring 3 by 1.75 inches. The male assists the female in incubating, and both are extremely solicitous for their young. The latter take to the water the day succeeding their escape from the egg, and are even then very expert swimmers and divers. The male is much larger than the female, weighing on an average fully a pound more. The Red-throated lives almost entirely at sea, resorting only to fresh water for the purpose of breeding. He is at all times an exceedingly shy bird, and very difficult to shoot. At the approach of the huntsman he increases his vigilance, and long before the former arrives within gunshot he either dives or flies away. His notes are harsh and rather loud, and resemble the syllables cac, cac, carah, carah, repeated in rapid succession. He does not acquire his full beauty of plumage until the fourth year. While in fresh water he feeds on small fish, shrimps, leeches, snails, and aquatic insects. His flesh is tough, oily, and dark colored, and very unpalatable.

American Black Scoter, or Scoter Duck. (*Oidemia americana.*)

Fig. 5.

This Duck is an inhabitant of both coasts of North America and its larger inland waters. His winter range extends as far north as the coast of Massachusetts, and from thence south to the mouth of the Mississippi. A few pairs breed on the coast of Labrador, but the vast majority proceed further north. The nest resembles that of the Eider Duck, though very much smaller. It is externally composed of small sticks, moss, and grasses, and lined with down mixed with feathers. The eggs are usually eight in number, oval, smooth, uniform pale yellow, and measure 2.00 by 1.62 inches. The parents are very solicitous for their young. Audubon found a female with several young ones, but was unsuccessful

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in his attempts at capturing them. On several occasions, when they were fatigued with diving, the mother would receive all the young ones on her back, and swimming deeply and very fast, take them to the shore, where the little ones effectually hid themselves in the tall grass and low tangled bushes. The Scoter flies low upon the water, with a swift and well-sustained flight. He dives with great facility, while on land his movements are unusually awkward. Gregarious, they congregate in large multitudes, and are shot for market, though the flesh is dark and not over savory. The food consists of shell-fish, marine plants, and insects.

PLATE LXXXIV.

Brown Pelican. (*Pelicanus fuscus.*)

Fig. 1.

This Pelican is an inhabitant of the coast of California, and on the Atlantic side ranges from Texas to North Carolina. He is a constant resident of Florida, where he breeds on its numerous sand bars and lonely mangrove islands. When once mated he is assiduous in his attentions to the female, assists her in building her nest, and shares with her the toils of incubation. He breaks with his bill dry branches of the trees, and lays them, one crossing another, until a strong platform is constructed. On this platform roots and withered plants are placed, in the centre of which a basin is hollowed for the purpose of receiving the eggs. These eggs, which are usually three, are rather elliptical in shape, and measure about 3.12 by 2.12 inches. The shell is thick, pure white, with faint streaks of a rosy tint and blotches of a very pale hue. The young, at first, are covered with cream-colored down, and are so abundantly supplied with food that immense quantities of putrid fish lie scattered around the nest. They rapidly increase in size, and, when the parent birds are away, become the easy prey of Vultures and Crows. Notwithstanding Audubon's prediction that they would soon become extinct, they are still found in immense numbers. Flocks of several hundred are frequently seen, and they fairly break the branches of the mangrove trees with their numbers and weight. They fish regularly with the young flood of the tide, diving from a great height; and fish weighing two and one-half pounds have been taken from their pouches. This pouch measures from six to ten inches, according to the age of the bird. The flight of the Brown Pelican is remarkably well sustained, the bird at times mounting to immense heights in the air, and remaining for hours on the wing. They propel themselves by alternate flappings and sailing, and glide along with great speed and ease. On the land they are by no means active, walking heavily, and frequently reeling as if unable to stand. They sometimes stray very far from their breeding haunts, as, within the last few years, they have been shot off the coast of Massachusetts. They are not a noisy bird, only uttering a loud rough grunt when excited. The young are two years in arriving at maturity.

Caran—Crying Bird—Courlan. (*Aramus giganteus.*)

Fig. 2.

The Courlan is confined to the West Indies and to Florida. At the latter place he is rarely found outside of the lagoons and bayous of the great morass known as the Everglades. His nest is placed among the tufts of grass that grow on the borders of these bayous, and are so fastened to these tufts as to defy the effects of the tide. It is composed of rank weeds matted together, forming a large mass, in the center of which a depression is made for the purpose of containing the eggs. These eggs rarely exceed five or six, and are large for the size of the bird. The young are hatched in May, and follow the parents soon after birth. They feed largely on a large greenish snail. Their note, when startled, or during the pairing season, which occurs in April, is a harsh sort of cackle. The flight of the Courlan is slow and heavy and of short duration. With head and neck extended to its full length, and with long legs dangling beneath, he barely skims the tall weeds in which he makes his home. In case of danger, he drops instantly into these protecting weeds, where it is difficult to overtake him, even with the assistance of dogs. When accidentally surprised, he rises obliquely, and at such times is easily shot, but if only wounded, it is useless to pursue him. His flesh is prized as an article of diet.

Stilt Sandpiper. (*Micropalama himantopus.*)

Fig. 3.

The Long-legged Sandpiper inhabits North America generally. As yet he has not been observed west of the Rocky Mountains. He is very rare in the United States, but is more plentiful in the West Indies, Central and South America. In his migrations he is occasionally shot in nearly every state in the Union. He breeds in very high latitudes, and but very little is known regarding his habits in this respect. Two sets of eggs, purporting to belong to this Sandpiper, are in the Smithsonian Institute at Washington; but Dr. Coues questions their identification, believing them to belong to the Buff-breasted Sandpiper, with which they are absolutely identical. According to Audubon, they feed after the manner of the Curlews, following the retreating waves along the sand, and probing it with their bills to the full length. The flight of the Stilt is rapid and regular. He moves in a compact body with his fellows, and when about to alight inclines his body, thus alternately showing the upper and the lower sides. They feed on worms, minute shell-fish, and vegetable substances, and their flesh is very sweet and delicate. On foot, they move like the Curlews, and when suddenly approached will squat upon the ground.

PLATE LXXXV.

Brown or Sandhill Crane. (*Grus canadensis.*)

Fig. 1.

The habitat of the Sandhill Crane extends from Florida through the Mississippi valley and west to the Pacific coast, reaches the interior of the fur countries, and touches upon the west coast of Baffin's Bay. He breeds throughout this entire region. He is found nowhere east of the Mississippi, with the exception of Florida. In Florida, the female lays her eggs all along from the middle of February until the middle of April. Further north, the time of incubation is very much later, on the Yukon river fresh eggs having been taken as late as mid-June. The nests are sometimes mere holes in the sand; at other times they are placed in the midst of tall ferns, on high and open grounds. The Sandhill is a very shy and suspicious bird, and his favorite breeding places are those which command long distances. The eggs are two in number, light brownish drab in color, with sparse markings, except on the great end, which is covered with large irregular spots of dull chocolate-brown. The shell is rough from numerous elevations, resembling warts, and is punctulate all over. The eggs vary in size and shape, ranging from 3.80 by 2.60 to 4.10 by 2.40 inches. The young are raised from the nest by Indians for food. They are easily domesticated, eating refuse scraps about the settlements, and consuming great numbers of insects. The markets of San Francisco are always supplied with them, where the flesh is very highly esteemed as an article of diet. Late in September they commence their southward migrations, flying chiefly by night,

when they break the stillness by hoarse and rattling croaks. When disturbed they rise heavily from the ground, and slowly circling upward attain great altitudes. According to Dr. Coues, "thousands of Sandhill Cranes repair each year to the Colorado river valley, flock succeeding flock along the course of the great stream from their arrival in September until their departure the following spring. Taller than the Wood Ibises, or the largest Herons with which they are associated, the stately birds stand in the foreground of the scenery of the valley, the water now reflecting the shadow of their broad wings, then the clear blue sky exhibiting in outline their commanding forms. Such ponderous bodies moving with slow-beating wings, give a great idea of momentum from mere weight, of force of motion without swiftness; for they plod along heavily, seeming to need every inch of their ample wings to sustain themselves. One would think they must soon alight fatigued with such exertion, but the raucus cries continue, and the birds fly on for miles along the tortuous stream, in Indian file, under some trusty leader, who croaks his hoarse orders, implicitly obeyed. Each bird keeps his place in the ranks; the advancing column now rises higher over some suspected spot, now falls along an open, sandy reach, swaying meanwhile to the right or left. As it passes on, the individual birds are blended in the hazy distance, till, just before lost to view, the line becomes like an immense serpent gliding mysteriously through the air. When about to alight, fearful lest the shadow of the wood harbor unseen dangers, the Cranes pass by the leafy intricacies where the Ibises and other less suspicious birds feed, and choose a spot for the advantage it may offer of uninterrupted vision. By nature one of the most wary and discreet of birds, his experience has taught the Crane to value this gift and put it to the best use. His vigilance is rarely relaxed, even when he is feeding where less thoughtful birds would feel perfectly secure. After almost every bending of his long neck to the ground, he rises again and at full length glances keenly on every side. He may resume his repast, but should so much as a speck he can not account for appear in view, he stands motionless, all attention. Now let the least sound or movement betray an unwelcome visitor, he bends his muscular thighs, spreads his ample wings, and springs heavily into the air, croaking dismally in warning to all his kind within the far-reaching sound of his voice.

Great White Heron. (*Audubonia occidentalis.*)

Fig. 2.

The Great White Heron is a constant resident of Florida and Cuba. He selects his mate early in March, but it is fully six weeks later before preparations are made for hatching the young. His nest is seldom more than a few feet above high-water mark, is about three feet in diameter, formed of sticks of various dimensions, is several inches thick, quite flat, and with scarcely any lining. The eggs are always three; are of a uniform light bluish-green in color, and measure about 2.75 by 1.67 inches. Incubation extends over a period of thirty days, and the male shares in its labors. He is diurnal in his habits, and never leaves his fishing ground until driven off by the tide. In fishing, he stands motionless, waiting for his prey to approach, when he strikes it with his bill and swallows it alive, unless too large, in which case he beats it on the water, shaking it violently. He is very shy and wary, and rarely occupies the same roosting place two nights in succession. When roosting, he usually stands upon one foot, with his long neck drawn in and placed under his wing. When surprised, he leaves his roost, uttering a rough croaking sound, and flies long distances out to sea. His flight is firm, regular, and greatly protracted, and is performed by slow and regular beatings of the wing. He frequently rises high in the air, sailing in wide circles, and he never alights without first performing this circling flight, unless when approaching his feeding ground. Audubon gives an account of two kept in confinement; each one would in a few minutes consume a gallon of fish. They would strike at children; grown fowls and ducks they would tear up and devour. Once a cat, asleep in the sunshine, was instantly killed by one of these birds. When their bills became broken they would grow again. At last they began to pursue children, when they had to be killed.

PLATE LXXXVI.

Yellow-nosed Albatross. (*Diomedea chlororhynchos.*)

Fig. 1.

We include this bird on the bare possibility of his belonging to North America. Audubon received a skin from Dr. Townsend, who procured it in the Pacific Ocean, not far from the mouth of the Columbia river. Baird gives his habitat as the Pacific ocean, and coast of Oregon. Dr. Coues says "it is the *D. culminata*, a species of Australian and other southern seas, *said* to have been taken 'not far from the Columbia river,' but there is no reason, as yet, to believe it ever comes within a thousand miles of this country.'"

Common Skua. (*Stercorarius catarractes.*)

Fig. 2.

The Common Skua is a rare bird in the United States, and is only found on the coast of California. He is found in all parts of the northern seas, within and near the polar circle. He is very powerful, both in his wing and beak, and during his breeding season does not hesitate to attack the Eagle. It is claimed that it is even dangerous for man to go near the nest which contains his young; and when country people are compelled to do so, they carry long sticks, armed with pikes or spears on the top, on which the Skua frequently transfixes himself in his furious descent. He attacks other birds indiscriminately, when on the wing, making them disgorge their food, which he seizes before it reaches the water. There is every reason to believe that he chooses his mate for life. The nest is rudely formed; the eggs are rarely more than two, varying in different shades of olive, and are marked with a few spots. He is not a sociable bird, rarely keeping company with other than his life-long spouse. His voice is sharp and shrill, the note resembling S-k-u-a, from whence his name.

PLATE LXXXVII.

Arkansas Goldfinch. (*Chrysomitris psaltria.*)

Fig. 1.

This Goldfinch inhabits the territory lying between the southern Rocky Mountains and the Pacific coast, extending north to Salt Lake City. His nest is built in the branches of some small tree, usually about ten feet from the ground. It is a very beautiful structure, symmetrical in form, and very ingeniously fitted to the branches which sustain it. Its base is composed of fine vegetable cottons, grasses, and strips of bark, densely felted together, and lined with the softest vegetable down. The eggs vary from four to five in number, rounded oval in shape, sharply pointed at one end, of a uniform greenish-white, unspotted, and measure about .60 by .50 of an inch. His song is remarkable for the power and sadness of its tone. The ordinary note it is impossible to describe, it resembling a plaintive, mellow whistle; when he takes to flight,

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it is changed into a quick cheer, cheer. This Goldfinch is even more gregarious than the common American Goldfinch (*C. tristis*), large flocks associating together as early as the beginning of June. His habits greatly resemble the *C. tristis*. He was first discovered in Long's expedition to the Rocky Mountains, in 1823, and is a rather rare bird.

Lawrence's Goldfinch. (*Chrysomitris lawrenci.*)

Fig. 2, Male. Fig. 3, Female.

This little bird is very common throughout California, where it frequents bushy hillsides, eating the buds and seeds of the low bushes with great avidity. They are very gregarious, associating in large flocks. This Goldfinch's favorite breeding place is in the fork of a bush or stunted oak, and is composed of fine grasses, lined with hair and feathers. It is a very ingenious and beautiful piece of mechanism, about one and a half inches in height, and three inches in diameter. The walls are closely matted together with feathers, vegetable and animal wools, and are soft, warm, and thick. The eggs run from four to five in number, and vary greatly in size, ranging from .80 by .46, to .58 by .45 inches. The eggs are either pure white or faintly touched with a delicate green tint. His song is very sweet and pleasing, some of his notes resembling those of a Canary, though more subdued. He has been seen in San Francisco as late as December, and probably winters in the very southern parts of California.

Gairdner's Woodpecker. (*Picus gairdneri.*)

Fig. 4.

The habitat of this Woodpecker is confined to the Pacific coast of the United States, extending back to the Rocky Mountains. His plumage grows darker, and with less of white, as he approaches Western Oregon and Washington Territory. He commences to excavate his nest about the middle of May, selecting some smallish tree for the purpose. He firsts cuts a hole in the solid wood as circular as if described with a pair of compasses. From this, the hole is excavated, running down in an oblique direction from six to eight inches. This hole is roomy and capacious, the walls very smooth and polished. The eggs are from five to six in number, nearly spherical in shape, pure white, and measure .96 by .85 inches. He is a very familiar and unsuspicious bird, paying little or no attention to man; he is also a very industrious bird, employing all his time in searching the bark of trees, for the purpose of ferreting out the insects which hide within their crevices. His flight is undulating, and he greatly resembles in all his ways the Downy Woodpecker of the East.

California Valley Quail. (*Lophortyx californicus.*)

Fig. 5, Male. Fig. 6, Female.

This beautiful species is found in all the valleys of California and Oregon. Its favorite abiding places are the prairies and grain fields of the cultivated districts, and the thickets which border upon streams, where coveys ranging from twenty to one hundred will frequently be met with, except during the breeding season, when they are only found in pairs. Like his eastern brother, he is very fond of sitting upon some stump, and in the early morning whistling out his peculiar call. This call resembles kuck-kuck-kuck-ka; the first three notes repeated rapidly, the last prolonged with a falling inflection. His nest is made in the open field, or at the foot of some small shrub, and is composed of grasses arranged with more or less care. Sometimes no attempt at nest-making is undertaken, the eggs being laid on the bare sand. They vary in number, ranging from twelve to sixteen; they also vary in size and markings. They are sharply pointed at one end and rounded at the other, the ground color of a creamy white, with markings of all shades of olive, chestnut, and drab, and measure from 1.30 by 1.00, to 1.18 by .95 inches. In Wilkes' expedition, specimens were taken alive in Oregon, and by a route equal to the circumference of the globe, were taken to Washington, where they produced one brood of young. Dr. Newberry tells us that they are susceptible of domestication, and would be a pretty ornament for parks and lawns in the Atlantic states, where they would probably thrive. He also says that as a game bird they are inferior to the eastern Quail, though, perhaps, of equal excellence for the table. It does not lie as well to the dog, and does not afford as good sport. It also takes a tree more readily. In 1857 it was introduced into Washington Territory, where it increased largely. In hunting, when flushed from the ground, it invariably flies to the trees, if in a wooded country, where it squats so closely lengthwise on a branch that it is hardly distinguishable. An attempt has been made to introduce them into Long Island, but they were all exterminated by gunners after the first season.

PLATE LXXXVIII.

Black Ptilogonys—Black-crested Flycatcher. (*Phaenopepla nitens.*)

Fig. 1.

This species is to be met with in the valley of the Colorado and southward. Its powerful and well-modulated song is very pleasant to the ear. Cooper says: This bird, which is in habits and appearance much more like the Flycatchers than the Waxwings, is yet connected with the latter more closely in structure, and has even some sweet notes, indicating a greater affinity to the *Oscines* than to the *Clamatores*.

They prefer the vicinity of the trees on which the mistletoe grows, as its berries form much of their food during the whole year, but they also watch for insects from the summit of some low tree, occasionally flying after one and pursuing it in a zigzag course, very much like the *Sayornis nigricans*. They almost constantly utter a loud cry of alarm or warning, and when pursued are very wild, requiring much artifice in winter to shoot them. If wounded, they conceal themselves so fully in the thick tufts of mistletoe as to be found with much difficulty.

When at rest, they have the same habit as the Pewees of jerking the tail and erecting their crest. When flying, the white spot on the spread wings becomes very conspicuous; and in the deserts along the Majoor river, every thicket of mesquite was frequented by one or more of them, some being constantly on the wing in their gyrating flight after insects, giving some appearance of life to those otherwise desolate regions in winter.

Mango Humming-bird—Black-throated Humming-bird. (*Lampornis mango.*)

Fig. 2.

The Mango, we learn from M. Boucier, though one of the most widely-spread members of its family, is only to be met with in hot localities (straggler to Florida), and whenever it occurs in the interior of a country, it is invariably in the warmest valleys. In disposition it is wild and quarrelsome, for although it lives in societies, several always being together, it is continually engaged in fighting with its companions and in driving away all other birds that approach the trees in which it is breeding. The adult does not assume its perfect plumage until the end of the second year, and in

the interval passes through so many changes that the variety of appearance it presents has given rise to the various names under which these birds have been described. The flight of this species is rapid. The Mango frequents gardens as well as forests, and is very common in Rio Janeiro in some seasons and equally scarce at others. The nest, according to Gould, is a round cup-shaped structure, placed near the extremity of a small horizontal branch, and is composed of any cottony or similar material that may be at hand, bound together with cobwebs, and ornamented with numerous small pieces of lichen. The eggs are white, and two in number, half an inch long by three-eighths of an inch in breadth.

"Wishing to keep one of these birds alive," says Gould, "I stationed myself near a blossoming papau tree, one evening, with a gauze ring-net in my hand, with which I darted at one, and though I missed my aim, the attempt so astonished it that it appeared to have lost its presence of mind, so to speak, flitting hurriedly hither and thither for several seconds before it flew away. The next morning I again took my station, and stood quite still, the nest being held up close to an inviting branch of blossoms; the Humming Birds came near in their course round the tree, sipped the surrounding flowers, eyeing the net hanging in the air for a moment near the fatal cluster without touching it, and then, arrow-like, darting away. At length one, after surveying the net, passed again round the tree, and in approaching it the second time and perceiving the strange object not to have moved, he took courage and began to suck. I quite trembled with hope; in one instant the net was struck, and before I could see anything, the rustling of his wings within the gauze told me that the little beauty was a captive. I brought him in triumph to the house and caged him, but he was very restless, clinging to the sides and wires, and fluttering violently about. The next morning, having gone out on an excursion for a few hours, I found the poor bird on my return dying, having beaten himself to death. I never again took this species alive."

Black-headed Goldfinch. (*Chrysomitris magellanica.*)

Fig. 3.

Of this species, Audubon says: "While residing at Henderson, on the Ohio, I, one cold morning in December, observed five males of this species on the heads of some sunflowers in my garden, and, after watching them for a little time, shot two of them. The rest rose high in the air, and were soon out of sight. Considering the birds very nearly allied to our common American Goldfinch, I was surprised to find the head black at that season. Their notes resemble those of the Pine Finch, *Linaria pinus*, but in their manner of feeding, as well as in their flight, they precisely resembled the American Goldfinch, *Carduelis tristis*. All my subsequent endeavors to meet this species failed."

Black-chinned Humming-bird. (*Trochilus alexandri.*)

Fig. 4.

This species is very closely allied to the Ruby-throated Humming-bird of Eastern North America, the difference consisting in the color of the chin and the shape of the tail. The tail in the male is nearly even, or slightly rounded, instead of being decidedly forked. The females of the two species are very similar, and can scarcely be distinguished. Whilst the Ruby-throated Humming-bird is confined to the east of the Rocky Mountains, this species is confined to the west of the same range. Cooper, in his Ornithology of California, says: "I observed none of this species in the Colorado Valley, and in coming westward first saw them along the Morgan river on the third of June. I also found one of their nests there, built in a dark willow thicket in a fork of a tree about eight feet from the ground. I have since found several more nests near Santa Barbara, all of them built near the end of hanging branches of the sycamore (*platanus*), constructed entirely of white down from the willow or sycamore catkins, agglutinated by the bird's saliva, and attached in the same way to the branch on which they rested. These were built in April, and early in May I found several containing two white eggs, like those laid by all Humming-birds, oblong in shape, and alike at each end; size, 0.51 by 0.32. Dr. Hurman found their nests as far north as Sacramento, and south to Guaymas. I have never seen the species in places exposed to the cold sea-winds, where others are found. It is a less interesting and conspicuous bird than the larger species found in this state, and probably not often recognized, though its small size is alone sufficient to distinguish it.

"During the progress of the Northwestern Boundary Survey, Mr. J. K. Lord, of the British commission, was so fortunate as to find this species between the Cascade and Rocky Mountains, near latitude 49°, where they arrived toward the end of May, and frequented the vicinity of lakes, pools, and swamps where the birch tree grows. The sap excluded from the bark of this tree attracted numbers of insects, on which this Humming-bird chiefly fed. He found the nests in high forks of branches of the birch or alder."

Mexican Wren—White-throated Wren. (*Catherpes mexicanus.*)

Fig. 5.

Until lately, the range of the White-throated Wren has been from the United States border, thence southward. Mr. Aiken reports it found in winter in Colorado, among large masses of rock on the faces of cliffs. Mr. Allen remarks that "The White-throated Wren is one of the most noteworthy birds of those remarkable localities near Colorado City, known as 'Monument Park,' and the 'Garden of the Gods.' When alone, I observed it in Colorado. Equally with the Rock Wren, it is a lover of cliffs and bare rocky exposures. Wherever it occurs, at least in the breeding season, its presence is sure to be known by its loud ringing notes. At the localities above named it seemed to delight in the reverberation of its notes from the high sandstone walls that give to the Garden of the Gods its peculiar picturesqueness." According to Prof. Sumichrast, it is very common on the plateau of Mexico, "where it probably has its center of propagation," and it is also found in the temperate region of the department of Vera Cruz. "In Orizaba, it nests in the houses; its nest, very skillfully wrought with spiders' webs, is built in the crevices of old walls, or in the interstices between the tiles under the roofs of houses."

Dr. Coues says: "The note of the species is one of the most striking I ever heard; for a bird of its size, it sings with wonderful strength and clearness, uttering a peculiar ringing whistle, the odd intonations of which are exaggerated in the echoes awakened among the fastnesses of the rocks. It is a very active, sprightly bird, leaping and fluttering among the rocks almost incessantly."

Oregon Towhee. (*Pipilo maculatus*, var. *oregonus.*)

Fig. 6.

This species is very similar to the Chewink, Towhee Bunting or Marsh Robin, which will be noticed by a comparison of the figures of the two species. The Chewink is represented on Plate LVI., Fig. 8. "The note of the Oregon Towhee," says Coues, "is entirely different, the words 'towhee' and 'chewink' being an attempt to imitate the sound, while the cry of the western varieties of *maculatus* is exactly like the scolding mew of a Catbird." The Oregon Towhee is met with on the Pacific coast.

Pl. LXXXVIII.

Rufous-backed or Red-backed Humming Bird. (*Selasphorus rufus.*)

Fig. 7.

The Rufous-backed is the only representative of the family that is to be met with in the extreme north. The Rocky Mountains to the Pacific, from Mexico to Alaska, is their abiding place. It was first discovered by the navigator, Captain Cook. Of its habits, Nuttall says:

"We began to meet with this species near the Blue Mountains of the Columbia river, in the autumn, as we proceeded to the west. We now, for the first time (April 16), saw the males in numbers, darting, burring, and squeaking in the usual manner of their tribe; but when engaged in collecting its accustomed sweets, in all the energy of life, it seemed like a breathing gem, or magic carbuncle of glowing fire, stretching out its gorgeous ruff, as if to emulate the sun itself in splendor. Toward the close of May, the females were sitting, at which time the males were uncommonly quarrelsome and vigilant, darting out at me as I approached the tree, probably near the nest, looking like an angry coal of brilliant fire, passing within very little distance of my face, returning several times to the attack, sinking and darting with the utmost velocity, at the same time uttering a curious reverberating, sharp bleat, somewhat similar to the quivering twang of a dead twig, yet also so much like the bleat of some small quadruped that for some time I searched the ground, instead of the air, for the actor in the scene. At other times, the males were seen darting up high in the air, and whirling about each other in great anger, and with much velocity. After these maneuvers, the aggressor returned to the same dead twig, where for days he regularly took his station with all the courage and angry vigilance of a King Bird. The angry hissing or bleating note of this species seems something like 'wht 't 't 't 't shvee,' tremulously uttered, as it whirls and sweeps through the air, like a musket-ball, accompanied also by something like the whirr of the Night Hawk."

The nest is usually built on a twig; is composed externally of mosses, lichens, and a few feathers, with slender, fibrous roots, interwoven and lined with fine cottony seed-down.

Louisiana Tanager. (*Pyranga ludoviciana.*)

Fig. 8.

This conspicuously-plumaged Tanager is the western cousin of the eastern Scarlet Tanager. It is met with in the Rocky Mountains, thence to the Pacific. There is very little difference in the note or song of the two species. The habits of the western species are also very similar to those of its eastern cousin. Dr. Cooper mentions the arrival of this species near San Diego on the 24th of April, and says: "The males come sometimes in advance, clothed in their full summer livery, and are more bold and conspicuous than the females, which are rarely seen without close watching. They frequent trees, feeding on insects and berries, and singing much in the same manner as other species." "The favorite habitat of this species," says Dr. Suckley, "in those localities where I have observed it, is among the tall, red fir-trees belonging to that magnificent species, the *Abies longlassii*. They seemingly prefer the edges of the forest, rarely retiring to its depths, unless for concealment, when alarmed. In early summer, at Fort Steilacoom, they are generally seen during the middle of the day, sunning themselves in the firs, occasionally darting from one of these trees to another, or to some of the neighboring white oaks (*Q. garryana*), on the prairies. Later in the season, they may be seen very actively flying about in quest of insect food for their young. Both sexes, during the breeding season, are much less shy; the males, during the daytime, frequently sitting on some low limb, rendering the scene joyous with their delightful melody." The eggs of this species, in size and shape, are very similar to the Scarlet Tanager.

The Red or Vermilion Fly-catcher. (*Pyrocephalus rubineus, var. mexicanus.*)

Fig. 9.

The habitat of this species is in the valleys of the Rio Grande and Colorado, and southward. It is a shy bird, and does not allow one to approach within shooting distance. Its note is a low chirp. Its general habits are the same as those of Fly-catchers.

Blue Grosbeak. (*Guiraca cærulea.*)

Fig. 10.

This is one of our solitary species, that is mostly met with in the more temperate sections of North America. It occasionally extends its migrations as far as the State of Maine. The song consists of a few sweet-toned notes, but the most common note is a loud chuck. It is also described "as a rapid, intricate warble, like that of the Indigo Bird, though stronger and louder." It is also claimed that this species is closely allied to the Indigo Birds "otherwise than merely by their coloration and structure." Wilson says: "They are timid birds, watchful, silent, and active." Their food consists of "hemp-seed, millet, and kernels of several kinds of berries." The nest of this species is usually built in a tree or bush. The eggs are light blue in color.

Evening Grosbeak. (*Hesperiphona vespertina.*)

Fig. 11.

This beautiful species is a resident along the Rocky Mountains to New Mexico, Sierra Nevada, northward, also on Lake Superior, north and west. It was first discovered by Mr. William Cooper, who says of it:

"In the north, they are not uncommon, but keep so high among the cottonwoods and pines that they are rarely obtained. They do not seem to come down near the coast, even at the Columbia river; and, in this state (California), have never been met with in the coast range of mountains. They feed chiefly on the seeds of pines, spruces, and cottonwood poplars, occasionally seeking other seeds nearer the ground. When feeding, they are very silent and difficult to perceive; but when they fly from one place to another they utter a loud call-note. In spring, they have a rather short, but melodious song, resembling that of the Robin, or Black-headed Grosbeak."

Arctic Spotted Towhee. California Ground Robin. Cat Bird. (*Pipilo maculatus, var. megalonyx.*)

Fig. 12.

This species is one of our several varieties of Spotted Towhees, and is known as the western variety. Its habitat is in California, Arizona, and New Mexico. Mr. Cooper says:

"Their favorite residence is in thickets and oak groves, where they live mostly on the ground, scratching among the dead leaves in the concealment of the undergrowth, and rarely venturing far from shelter. They never fly more than a few yards at a time, and only a few feet above the ground. About towns, if unmolested,

they become more familiar, entering gardens, and making their homes about the house. They have little musical powers, the male merely uttering a feeble, monotonous trill, from the top of some low bush. The nest is made on the ground, under a thicket, constructed of dry leaves, stalks, and grass, mixed with fine roots. The eggs, four or five in number, are greenish-white, minutely speckled with reddish brown. They measure 1.00 x 0.70.

"When alarmed, they have a note something like the 'mew' of a cat, from which they are popularly known by the name of Cat Bird."

PLATE LXXXIX.

Brown-headed Woodpecker. (*Sphyrapicus thyroideus.*)

Fig. 1.

A beautiful species that is to be met with in the wooded mountainous regions on the Pacific slope. It is shy and silent, and usually seen high on the branches of trees. A remarkable feature connected with this bird is the entire absence of the familiar red on the upper part of the head, so common on all other North American Woodpeckers, which is a peculiarity shared only by the Williamson's Woodpecker (*Sphyropicus williamsonii*).

Red-breasted Woodpecker. (*Sphyropicus ruber.*)

Fig. 2.

This unusually bright and purely-colored species is a common resident of the Pacific coast.

A note from Mr. Nuttall to Mr. Audubon, communicating information respecting the habits of this species, says:

"This species, seen in the forests of the Columbia, and the Blue Mountains of the same country, has most of the habits of the common Red-headed species. It is, however, much less familiar, and keeps generally among the tall fir-trees, in the dead trunks of which it burrows out a hole for a nest, sometimes at a great elevation. On approaching one which was feeding its young, in one of these situations, it uttered a loud, reverberating 'l 'r r, l 'r r,' and seemed angry and solicitous at my approach. The same species also inhabits Upper California, as well as the northwest coast up to Nootka. It is found eastward as far as the central chain of the Rocky Mountains."

White-headed Woodpecker. (*Picus albolarvatus.*)

Fig. 3.

This exceedingly rare and silent Woodpecker is also the most plainly colored of any of our North American species. Its residence is in the mountains of Oregon, Washington, and southward to California.

Painted Fly-catcher. (*Setophaga picta.*)

Fig. 4.

The figure represents a beautiful Mexican species, occasionally to be met with in Arizona. The head, and around the neck, the breast and the back, is a beautiful lustrous black. The belly, from the middle of the breast, is a dark crimson red.

Mountain Titmouse. Mountain Chickadee, or White-browed Chickadee. (*Parus montanus.*)

Fig. 5.

This species, with the exception that it has a white line over the eyes and across the forehead, is exactly like the common Titmouse, or Black-capped Chickadee. It is a common inhabitant of the Rocky Mountains to the Pacific. Its notes and habits are also like the common Chickadee, represented on plate 32, fig. 4, described on page 42.

Spotted Sparrow. Titlark Sparrow. (*Passerculus savanna var. anthinus.*)

Fig. 6.

This is the California coast variety of our common Savanna Sparrow, represented on plate 49, fig. 1, and described on page 69. Cooper, in his Ornithology of California, says:

"This plain little bird is peculiarly the Marsh Sparrow of this coast, as I have found them rarely out of the salt marshes, where they lie so close, and run so stealthily under the weeds, as to be flushed with some difficulty, rising only to fly a few rods and drop again into the covert. They are not very gregarious except when migrating, and fly up singly." Its song consists of short and pleasant notes.

Ground Wren. Ground Tit. Fasciated Tit. (*Chamæa fasciata.*)

Fig. 7.

This little Quaker-like colored Wren, so unlike any other North American species, is a resident on the coast of California, and foot-hills of the Sierra Nevada. The female differs from the male in being a little smaller.

"This interesting link between the Wrens and Titmice," says Cooper, "is common everywhere west of the Sierra Nevada, on dry plains and hillsides covered with chapparal and other shrubby undergrowth, but it is not found in the forests. It is one of those birds that can live where there is no water, except occasional fogs, for six or eight months together. In these dreary 'barrens,' its loud trill is heard more or less throughout the year, but especially on spring mornings, when they answer each other from various parts of the thickets. They have a variety of other notes resembling those of the wrens, and correspond with them also in most of their habits, hunting their insect prey in the vicinity of the ground or on low trees, often holding their tails erect, and usually so shy that they can only be seen by patient watching, when curiosity often brings them within a few feet of a person; and, as long as he sits quiet, they will fearlessly hop around him as if fascinated."

Plumed Quail. Plumed Partridge. Mountain Quail. (*Oreortyx pictus.*)

Fig. 8, Male. Fig. 9, Female.

This fine bird is a common resident in the higher mountain ranges of California and Oregon. It is usually met with in coveys of about fifteen. They live on insects, seeds, and berries, and are excellent food for the table. Cooper says:

"In habits and flight they have considerable resemblance to our other Quails, but their cries are quite different. Their note of alarm is a rather faint chirp, scarcely warning the sportsman of their presence, before they fly. They scatter in all directions when

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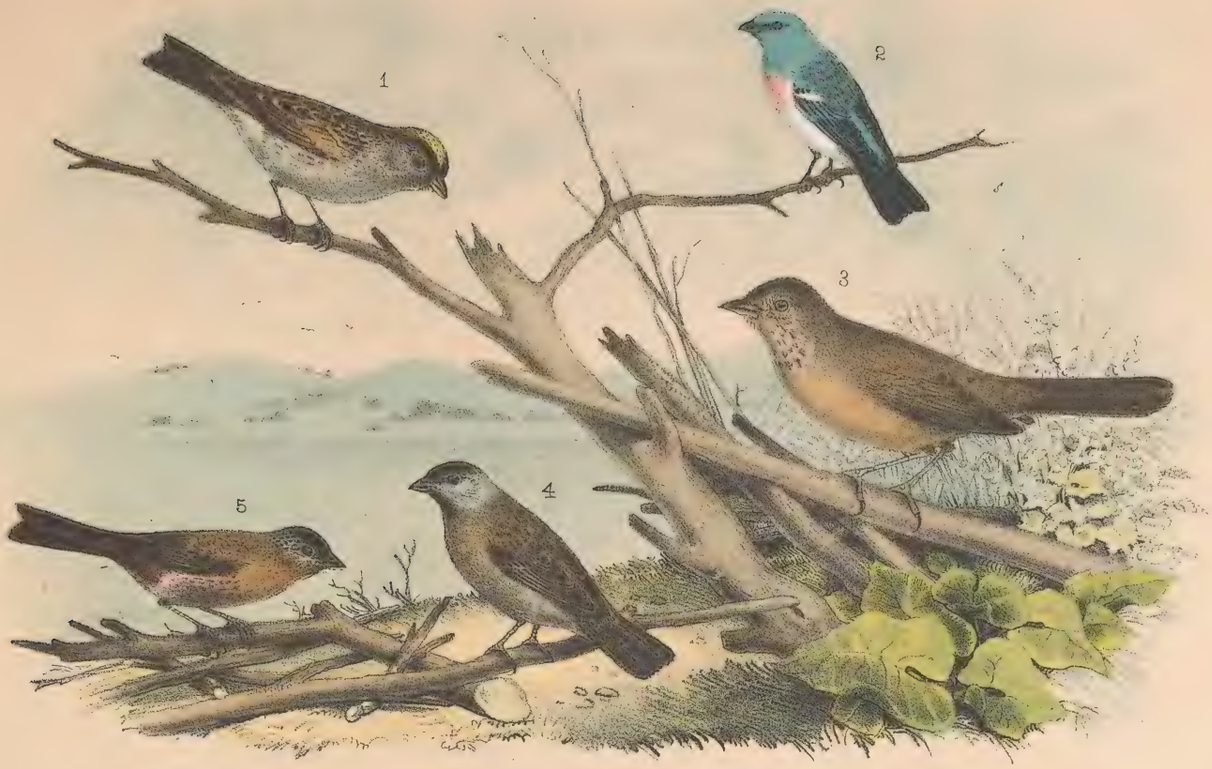
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flushed, and then call each other together by a whistle, very much like that of a man calling his dog. According to Newberry, the hen has a cluck, much like that of the common hen, when calling together her young brood about the first of August."

PLATE XC.

Golden-crowned Sparrow, Yellow-crowned Finch, or Yellow-crowned Sparrow. (*Zonotrichia coronata.*)

Fig. 1.

This species, which is closely allied to the White-crowned Sparrow (*Zonotrichia leucophrys*) is to be met with on the Pacific coast. Its note is only an occasional chirp.

According to Heerman, "the nest was composed of coarse stalks of weeds, and lined internally with fine roots. The eggs, four in number, are ashy-white, marked with lines of brown umber, sometimes appearing black from the depth of their shade, and covered also with a few neutral tint spots."

Lazuli Finch. (*Cyanospiza amœna.*)

Fig. 2.

This abundant, as well as one of the handsomest, species found on the Pacific coast, was added to our North American ornithology by Thomas Say, who procured it during the course of Long's expedition. It is often kept in cages, and sold by dealers as the Eastern Indigo Bird; their mistake is no doubt occasioned by the similarity of habits and song. Then again, by some, it is taken as a faded variety of that bird. There is very little, if any, indigo in its colors. Its name, Lazuli—after the celebrated lazuli-blue stone of Italy—being so little understood, is also a cause of the misapplication. Mr. Townsend says, "the Chinook Indians name this species *Tilkonapaooks*, and that it is rather a common bird on the Columbia, but is always shy and retiring in its habits, the female being very rarely seen. It possesses lively and pleasing powers of song, which it pours forth from the top branches of moderate-sized trees. Its nest, which is usually placed in the willows along the margins of the streams, is composed of small sticks, fine grasses, and cow or buffalo hair."

Mr. Cooper says: "During the summer there is scarcely a thicket or grove in the more open portions of the state (California) uninhabited by one or more pairs of this beautiful species. The male is not very timid, and frequently sings his lively notes from the top of some bush or tree, continuing musical throughout summer, and in all weathers."

The eggs are usually five in number, and are white, tinged a little with blue.

Canon Towhee. Brown Towhee. (*Pipilo fuscus.*)

Fig. 3.

This species is an inhabitant of New Mexico, Arizona, and southward, where it is met in company with Abert's Towhee. The habits and characteristics of these species are much alike.

Gray-crowned Purple Finch. Gray-necked or Gray-eared Finch. (*Leucostiote tephrocotis var. grisscinucha.*)

Fig. 4.

Gray-crowned Finch. (*Leucostiote tephrocotis var. australis.*)

Fig. 5.

These varieties of the Gray-crowned Finch are figured to give the reader and illustration of the difference that exists in their plumage. Their habits and characteristics are about the same as those of the Gray-crowned Finch (*Leucostiote tephrocotis*), figured on plate 71, fig. 7.

The species, fig. 4, is of rare occurrence, and that of fig. 5 is in doubt—some of our best ornithologists do not consider it a variety. It is said to be the largest, and to have the largest bill.

California Woodpecker. (*Melanerpes formicivorus.*)

Fig. 6.

This handsome and well known Pacific species is about the same in size as our common Red-headed Woodpecker.

Cooper, in his Ornithology of California, says:

"This beautiful bird is one of the commonest in all the lower regions of California, frequenting chiefly the oaks, and extending up as far as they grow on the mountains. Its brilliant plumage, lively and familiar habits, and loud notes make it a very conspicuous inhabitant of the woods, and it will, if unmolested, become quite familiar around dwellings. Their usual resorts are among the topmost and decayed branches, where they seek their insect food; but they also feed in great part on insects caught among the leaves, and on the bark, as well as on fruits, being less industrious in hammering for a subsistence than the *Pici*. They burrow out the cavity for a nest in a dead branch, making it, according to Herrman, from six inches to two feet deep, and laying four or five pure white eggs, on the dust and chips at the bottom, like nearly all Woodpeckers.

"They are fond of playing together around the branches, uttering their rattling calls, and often darting off to take a short sail in the air, returning to the same spot. They have a habit, peculiar to them, of drilling small holes in the bark of trees, and fitting acorns tightly into them, each one being carefully adapted, and driven tight. The bark is often so full of these holes as to leave scarcely room to crowd in another without destroying the bark entirely. These are generally considered as laid up for a winter supply of food; but while, in this climate, no such provision is necessary, it is also very improbable that birds of this family would feed on hard nuts, or seeds of any kind. The more probable explanation is that they are preserved for the sake of the grubs they contain so frequently, which, being very small when the acorn falls, grow until they eat the whole interior, when they are a welcome delicacy for the bird. From this strange habit, the bird has received the name of '*Carpintero*,' and this is also adopted by many Americans."

Yellow-bellied or Yellow-faced Woodpecker. (*Centurus aurifrons.*)

Fig. 7.

This species is usually met with in the Rio Grande region of the United States, thence south into Mexico. It is about the size of our common Downy Woodpecker (*Picus pubescens.*)

Least Titmouse. (*Psaltriparus minimus.*)

Fig. 8.

This little Titmouse is usually observed in the evergreen oaks,

small trees, in which they are busily engaged, with their chirping call, which resembles the words "thshish, tshist, tsii, twee," and search for their insect food. They are constant residents of the Pacific coast of the United States, east to the Sierra Nevada.

Bullock's Oriole. (*Icterus bullockii.*)

Fig. 9.

This beautiful bird is an inhabitant of the wooded portions of the Rocky Mountains, to the Pacific, and southward along the table-lands of Mexico, and is said to extend its migrations in summer to British America. It is a near relative of the well known favorite, the Baltimore Oriole:

Dr. Coues, American Naturalist (vol. 5, page 680), says:

"All the Orioles are wonderful architects, rearing pensile nests of soft, pliable, fibrous substances, with a nicety and beauty of finish that human art would vainly attempt to rival. These elegant fabrics are hung at the end of slender twigs, out of reach of ordinary enemies; and though they may swing with every breath of wind, this is but cradle-rocking for the callow young, and it is a rude blast, indeed, that endangers the safety of their leafy home.

"Little time passes after their arrival, before the modestly-attired females rambling silently through the verdure, are singled out and attended each by her impetuous consort, who sings his choicest songs, and displays the powers she admires most. His song is an elegant paraphrase of the Baltimore's, with all its richness and variety, though an ear well skilled in distinguishing birds' notes can readily detect a difference. Their courtship happily settled, the pair may be seen fluttering through the thicket they have chosen in eager search for a building-place; and when a suitable one is found, no time is lost in beginning to weave their future home. It is a great mistake to suppose that birds of the same species always build in the same way. Though their nests have a general resemblance in the style of architecture, they differ greatly according to their situation, to the time the birds have before the nest must be used for the reception of the eggs, and often, we are tempted to think, according to the taste and skill of the builders. In their work of this sort, birds show a remarkable power of selection, as well as of adapting themselves to circumstances; in proof of which, we have only to examine the three beautiful specimens now lying before us. Each is differently constructed; and while all three evince wonderful powers of weaving, one of them in particular, is astonishingly ingenious, displaying the united accomplishments of weaving and basket-making. Before proceeding, we may premise that the idea of the nest is a sort of bag or purse, closely woven of slender, pliant substances, like strips of fibrous bark, grasses, hair, twine, etc., open at the top, and hung by its rim in the fork of a twig, or at the very end of a floating spray. The eggs of this species are four or five in number, and rather elongated in form, being much pointed at the smaller end."

Blue Crow. Maximilian's Jay. Cassin's Jay. (*Gymnokitta cyanocephala.*)

Fig. 10.

The favorite resorts of this species are the barren districts east of the Sierra Nevada, among the junipers, the berries of which afford them food. The following interesting account of this species was written by Dr. Coues, and appeared in the "Ibis," 1872:

"For many years this species was considered a rarity, to be highly prized, and may still remain among the desiderata of many or most European collectors; but of late a great many specimens have been gathered, notably in California, by the late Captain John Feilner, and in Arizona, by myself. Prince Maximilian's original examples are stated to have come from one of the tributaries of the Upper Missouri, which locality, if not beyond the bird's ordinary range, is certainly far from its centre of abundance. In the matter of altitude, the present species has not been proven to occur so high up as Clarke's Crow has; but the evidence is only negative. It breeds at or near its limit of altitude, descending in winter to the lower border of the pine-belt, if not a little beyond.

"At Fort Whipple, in Arizona, where my observations were made, the bird may be considered a permanent resident. Though we did not observe it breeding in the immediate vicinity, we found newly-fledged young in the neighboring higher mountains, showing that it nests there. Like most of its tribe—in fact, like most birds largely subsisting on varied animal and vegetable substances—it is not strictly migratory, except, perhaps, at its highest point of dispersion. A descent of a few thousand feet from mountain-tops appears to answer the purpose of the southward journeying most migratory species perform, as far as food is concerned, while its hardy nature enables it to endure the rigors of winter in regions frequently snow-bound. It feeds principally upon juniper berries and pine seeds; also upon acorns, and probably other small, hard fruit.

"Notwithstanding its essentially corvine form, the habits of this bird, like its colors, are rather those of Jays. It is a garrulous and vociferous creature, of various and curiously modulated chattering notes when at ease, and of extremely loud, harsh cries when in fear or anger. The former are somewhat guttural, but the latter possess a resonance different both from the hoarse screams of *Cyanura macrolopha* (Long-crested Jay) and the sharp, wiry voice of the *Cyanocittæ* (Jays). Like Jays, it is a restless, impetuous bird, as it were of an unbalanced, even frivolous, mind; its turbulent presence contrasting strongly with the poised and somewhat sedate demeanor of the larger black *Corvi* (Crow). With these last, however, it shares a strong character—its attitudes when on the ground, to which it habitually descends, being Crow-like; and its gait, an easy walk or run, differing entirely from the leaping progression of the true Jays. It shares a shy and watchful disposition with its relatives on both sides of the family; its flight is most nearly like that of the *Picicorvus* (Clark's Crow). It is highly gregarious, in the strict sense of the term. Immense as the gatherings of Crows frequently are, these birds seem to associate rather in community of interest than in obedience to a true social instinct; each individual looks out for himself, and the company disperses for cause as readily as it assembles. It is different with these small Blue-Jay Crows; they flock sometimes in surprising numbers, keep as close together as Blackbirds, and move as if by a common impulse. As usual, their dispersion is marked, if not complete, at the breeding season; but the flocks reassemble as soon as the yearlings are well on wing, from which time until the following spring hundreds are usually seen together. On one occasion, at least, I witnessed a gathering of probably a thousand individuals.

"The nest and eggs of this bird apparently remain unknown."

PLATE XCI.

Glossy, or Bay Ibis. (*Ibis falcinellus, var. ordii.*)

Fig. 1.

This species has a general distribution within the warmer sections of North America. It is mostly to be seen along our lakes and rivers and especially along the coast, and specimens have been met with as far north as Massachusetts and Ohio. In summer, the Glossy Ibis subsists chiefly upon larvæ, worms, and insects of various kinds, seizing their prey with great dexterity, even when

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upon the wing, at other times fish, small reptiles, and similar fare, for which they wade deep into the water, answers their purpose. The nest usually contains about three eggs, of a dull greenish color.

Prothonotary Warbler. (*Prothonotaria citræa.*)

Fig. 2.

This beautiful and uncommon Warbler is an inhabitant of the south Atlantic and Gulf States, and occasionally extends its migrations north as far as the State of Maine. It is also met with in Cuba, Costa Rica, Panama, and Merida. Swamps, thickets, and the swampy forests along the Mississippi and the wilds of Florida are the usual places of resort. The food consists of larvæ, small land shells, insects, and catterpillars. The song consists of a few feebly-uttered notes.

Little Black Rail. (*Porzana jamaicensis.*)

Fig. 3.

This very small species is very rarely seen in the United States. The West Indies, South and Central America are its places of residence.

Little Yellow-breasted Rail. (*Porzana noveboracensis.*)

Fig. 4.

This pretty little bird is met with mostly along the shores of fresh and salt-water marshes of Eastern North America. It extends its migrations north as far as Hudson's Bay, and winters in the Southern States. Its song consists of a shrieking noise, usually uttered in the morning and evening. The food consists of insects and seeds. Its eggs, which are placed in the grass, on the ground, are of a rich buffy-brown color, marked with reddish chocolate dots and spots.

Barrow's Golden-eye. Rocky Mountain Garrot. (*Bucephala islandica.*)

Fig. 5.

This uncommon Arctic-American species of the Duck family is mostly met with in the valleys of the Rocky Mountains. Its migrations south, in winter, are extended to the Northern States. The habits of this species are similar to those of the Golden-eyed Duck, figured on Plate XXXV, and described on page 48, for which the Rocky Mountain Garrot is often taken.

Stilt, Black-necked Stilt, Longshanks, and Lawyer. (*Himantopus nigricollis.*)

Fig. 6.

The Stilt is a common bird to many sections of North America, mostly along the sea-shore, and on lakes and rivers. It is also met far inland, in places least expected to be inhabited by wading birds. Its food consists mostly of aquatic insects. When on the wing, a flock of these birds make a very attractive sight, appearing black, then in a few seconds white, as they show the upper or lower parts of the body. It is a very graceful bird, and its movements, whether on the ground or wading in the water, are made with a decided and measured step. In the fall, about the time they are preparing to migrate to the warmer sections, their flesh is tender and good for the table.

PLATE XCII.

Woodhouse's Jay. (*Aphelocoma floridana, var. woodhousei.*)

Fig. 1.

This Jay is abundant in the Southern Rocky Mountain region. It is also more generally distributed than other species of Jays common to that section. Pine-seeds, acorns, and juniper-berries constitute its food. The eggs, about five in number, are laid early in May. The nest is outwardly composed of twigs and fine roots, and lined with horse-hair.

Dr. Coues, who often noticed this species in the upper parts of Arizona, says:

"Its preference is for oak openings, rough, broken hill-sides, covered with patches of juniper, manzanita, and yuccas, brushy ravines, and wooded creek-bottoms. The ordinary note is a harsh scream, indefinitely repeated with varying tone and measure; it is quite noticeably different from that of either Maximilian's or Steller's, having a sharp, wiry quality, lacking in these. It is always uttered when the bird is angry or alarmed, and consequently is oftener heard by the naturalist; but there are several other notes. If the bird is disporting with his fellows, or leisurely picking acorns, he has a variety of odd chuckling or chattering syllables, corresponding to the absurd talk of our Blue Jay under the same circumstances. Sometimes, again, in the springtime, when snugly hidden in the heart of a cedar-bush, with his mate, whom he has coaxed to keep him company, he modulates his harsh voice with surprising softness, to express his gallant intention; and if one is standing quite near, unobserved, he will hear the blandishments whispered and cooed almost as softly as a Dove's. The change, when the busy pair find they are discovered, to the ordinary scream, uttered by wooer and wooed together, is startling."

Mountain Warbler. Virginia's Warbler. (*Helminthophaga virginiæ.*)

Fig. 2.

Very few specimens of this species have been seen, and very little is known of its habits, which are said to resemble to a marked degree the Nashville Warbler (*H. ruficapilla*), and the Orange-crowned Warbler (*H. celata*).

Leaden Titmouse. Lead-colored Titmouse. (*Psaltriparus plumbeus.*)

Fig. 3.

This little bird is a resident of the Southern Rocky Mountain region. It is very closely related to the Least Titmouse, the Pacific Coast species. Dr. Coues says of this species:

"It is a resident of the mountains of Arizona, where it braves the rigors of winter, without apparent inconvenience, though one is tempted to wonder how such a tiny body, no larger than the end of one's thumb, can retain its animal heat during exposure to cold that sometimes destroys large birds, like the Raven. It is a sociable little creature, generally going in companies of from half a dozen to fifty, actively engaged in their search for minute insects, and continuously calling to each other with their curiously squeaky notes. It scarcely knows fear in the presence of man, and will continue its busy search, though an observer may be standing within a few feet of it. I found it oftenest in the shrubbery of the hillsides, and the dense undergrowth which fills the ravines; it appeared to have little fancy for the higher growths of oak or pine. It is surprising what large insects this little creature will sometimes capture; I saw one struggling with a caterpillar nearly

as long as its own body, and it succeeded, after great exertion, in disposing of the big mouthful."

Yellow-headed Titmouse. Verdin. (*Auriparus flaviceps.*)

Fig. 4.

This species is an inhabitant of the valleys of Texas, Arizona, New Mexico, South and Lower California.

"I found numbers of this beautiful little bird," says Cooper, "at Fort Morgan, during the whole winter, frequenting the thickets of *Algarobia* and other shrubs, and having habits rather intermediate between the Titmia and Warblers, corresponding with their intermediate form. They had something of the same song as the *Parus*, and a loud call, generally uttered as they sat on a high twig, besides a lisping triple note, like that of tsee-tu-tu. The nest is usually built by forming a wall nearly spherical in outline, out of the thorny twigs of the algorabia, then lining it with softer twigs, leaves, down of plants, and feathers, covering the outside with thorns, until it becomes a mass as large as a man's head, or 9x5.50 inches outside, the cavity 4.50x2.70, with an opening in one side, just large enough for the bird to enter. The eggs number four, and are pale blue, with numerous small brown spots, chiefly near the large end, though some had very few spots and were much paler; size 0.60x0.44 inch.

Wollweber's Titmouse. Bridled Titmouse. (*Lophophanes wollweberi.*)

Fig. 5.

The habitat of this species is in the Southern Rocky Mountains of New Mexico and Arizona, thence South into Mexico. Its habits and characteristics are similar to those of its allies. It is readily distinguished from all others of its genus by the variety of the colors in its plumage.

Black-throated Finch. Black-throated Sparrow. (*Poospiza bilineata.*)

Fig. 6.

This species is to be met with in California, Texas, New Mexico and Arizona. Cooper says: "On the barren, treeless, and waterless mountains that border the Colorado valley, this was one of the few birds enlivening the desolate prospect with their cheerful presence. They were nowhere numerous, but generally seen in pairs or small parties hopping along the ground under the scanty shrubbery. In winter they descended to the hills near the Colorado, when the males, perched on a low bush, sung short but lively ditties toward spring."

American Red Crossbill. Common Crossbill. Large-billed Crossbill. (*Loxia curvirostra, var. mexicana.*)

Fig. 7.

This species is a Mexican variety of our Common Red Crossbill, represented on Plate XXXVIII, figures 7 and 8, and described on page 53.* It is a resident in the Sierra Nevada, of California, south along the Alpine regions of Mexico to Guatemala.

Black-throated Gray Warbler. (*Dendrœca nigrescens.*)

Fig. 8.

This species is frequently to be met with along the Pacific Coast. "On the twenty-third of May," Nuttall says, "I had the satisfaction of hearkening to the delicate but monotonous song of this bird, as he busily and intently searched every leafy bough and expanding bud for larvæ and insects, in a spreading oak, from whence he delivered his solitary note. Sometimes he remained a minute or two stationary, but more generally continued in quest of prey. His song, at short and regular intervals, seemed like t'shee, 'tshay, 'tshaitshee, varying the feeble sound but very little, and with the concluding note somewhat slenderly and plantively raised." According to Townsend, it is abundant in the forests of the Columbia, where it breeds, and remains until winter; and that the nest is formed externally of fibrous, green moss, and is generally placed on the upper branches of the oak, suspended between two small twigs.

Whitney's Owl. (*Micrathene whitneyi.*)

Fig. 9.

This singular little Owl is one of the most noteworthy and interesting of the many late additions to our knowledge of western birds. Until recently, the last-noticed species (Pygmy Owl) was properly regarded as the smallest of its family in North America; but it somewhat surpasses Whitney's in size. The latter is not so long as many of our Sparrows, being the least among our raptorial birds, if not the smallest known Owl. It was discovered at Fort Majoon, in 1860, by Dr. J. G. Cooper, to whose exertions in developing the zoology of the West we are so much indebted. We learn from Dr. Cooper's account that it is an arboreal, not a terrestrial, species; is partly diurnal, and feeds upon insects. It is probably a rare bird, to judge from its having remained so long undetected. But Mr. A. J. Grayson lately found it on Socorro Island, off the coast of Mexico, while several specimens have been taken in Arizona, by Lieutenant C. Bendin and Mr. H. W. Henshaw. The former found it breeding in the hollow of a mezquito stump.

Lark Bunting. White-winged Blackbird. (*Calamospiza bicolor.*)

Fig. 10.

The Lark Bunting is an abundant species, mostly met with on the prairies, on the western plains to the Rocky Mountains, and southward to Mexico. A striking circumstance connected with this bird, is the seasonable change of plumage, which corresponds very nearly to that of the Bobolink. Between the two, there is quite a similarity in their coloration.

It is stated that this change was first noticed by Mr. Allen, who says, after the moulting season, the males assume the plumage of the female, the change in color being similar to that of the males of *Dolichonyx oryzivora*. The same writer also says:

"The Lark Bunting, though of rather local distribution and limited range, must be regarded as one of the most characteristic and interesting birds of the plains. Generally, in the breeding season, a number of pairs are found in the same vicinity; while again not an individual may be met with for many miles. At other seasons, it is eminently gregarious, roving about in considerable flocks. In its song and the manner of its delivery, it much resembles the Yellow-breasted Chat (*Icteria virens*), like that bird, rising to a considerable distance in the air, and poising itself by a peculiar flapping of the wings during its utterances, then abruptly descending to the ground, to soon repeat the maneuver. It is a very strong flyer, and seems to delight in the strongest gales, singing more at such times than in comparatively quiet weather. I met with several colonies, not far from Fort Hays, in June and July, and later at Cheyenne, Laramie, and in South Park, and in the elevated, open table-lands, between South Park and Colorado City. They were also frequent along the route from Colorado City to Denver, sometimes considerable flocks being met with.

* The striking difference between the two birds is in the Mexican variety having the larger bill.

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They were then moulting, and the parti-colored flocks of young and old were quite unsuspicious, and easily approached. During the breeding season, we found them exceedingly shy and difficult to procure, and were unsuccessful in our efforts to discover their nests."

PLATE XCIII.

California Jay. (*Cyanocitta californica.*)

Fig. 1.

Cooper says: "In California, this Jay is one of the most common and conspicuous birds, frequenting every locality where oaks grow, even close to the towns; entering gardens, and audaciously pilfering fruit, etc., before the owner's eyes. They show the usual cunning of the tribe, and, if alarmed, become very quiet, concealing themselves in the thick foliage, so as to be found with difficulty. They are usually, however, noisy and fearless, their odd cries, grotesque actions, and bright plumage making them rather favorite guests, in spite of their petty depredations. They live chiefly on small acorns and insects, but, like other Jays, are decidedly omnivorous. Their cries are less harsh and loud than those of Steller's Jay, and they have also some talent for mimicry, besides notes to express their various wants and ideas."

They build throughout the western parts of California, constructing a large and strong nest of twigs, roots, grass, etc., in a low tree or bush, and laying about five eggs, dark green, with numerous pale brown blotches and spots, measuring 1.04x1.80 inch.

Harris' Woodpecker. (*Picus harrisii.*)

Fig. 2.

This species, with the exception that it has fewer white wing-spots, is like the common Hairy Woodpecker, of Eastern North America. The habitat of this bird is from the Pacific Coast to the eastern slope of the Rocky Mountains. The cry of this species is somewhat louder than that of the other small Woodpeckers. Its food consists of insects and their larvæ—also, fruits and berries.

Black-tailed or Black-headed Gnatcatcher. Black-tailed Flycatcher. (*Polioptila melanura.*)

Fig. 3.

This species is usually met with in the southwestern portion of the United States, in the valley of the Rio Grande and Gila. Very little is known regarding its habits. Their notes are said to be somewhat similar to the song of the Wren, and also like that of the Swallow.

Plumbeous Gnatcatcher. Lead-colored Flycatcher. (*Polioptila plumbea.*)

Fig. 4.

This bird is to be found in the valley of Colorado and Gila. It differs from the last-named by being without the black crown. It is also larger, and its color is a duller leaden gray.

Stone Chat. Fallow Chat, or Wheatear. (*Saxicola cenanthe.*)

Fig. 5.

This Chat is met with on the Atlantic Coast, as a stray bird from Europe, by way of Greenland, and also on the north Pacific Coast, from Asia. "The Wheatear," says Brehm, "both dwells and breeds in the British Islands and Lapland. In Asia, it is met with in corresponding latitudes. Occasionally it appears in the upper provinces of India, and in many parts of Africa."

Water Ouzel. American Dipper. Dipper. (*Cinclus mexicanus.*)

Fig. 6.

This plainly-plumaged and interesting species is to be met with along the clear mountain streams, from British America to Mexico, and west to the Pacific. "About sunset," says Cooper, "I heard the male singing very melodiously, as it sat on one of its favorite rocks, in the middle of the foaming rapids, making its delightful melody heard for quite a long distance above the sound of the roaring waters." And again the same author says: "The strange habits of this bird make it a very remarkable object, and it attracts much attention wherever found. It may be said to combine the form of a Sandpiper, the song of a Canary, and the aquatic habits of a Duck. Its food consists almost wholly of aquatic insects, and these it pursues under water, walking and flying with perfect ease beneath a depth of several feet of water. When they dive below, there is a film of air surrounding them, which looks like silver, and may assist in supporting respiration. They do not, however, swim on the surface, but always dive, and sometimes fly across streams beneath the surface. They prefer clear, noisy mountain streams; but I have seen one on the summit of the Sierra Nevada, eating insects along the shore of a calm mountain lake. Their flight is rapid and direct, like that of a Sandpiper; and when they alight, it is always on a rock or log, when they jerk their tails much like that bird."

Marbled Guillemot, or Nurselet. (*Brachyrhamphus marmoratus.*)

Fig. 7.

This pretty little sea bird is said to be numerous on the Pacific, to California. According to Dr. Brehm, "Guillemots principally inhabit northern latitudes, at certain seasons appearing in more temperate climates. Except during the period of incubation, they seldom visit the land, but pass their whole time upon the ocean. They are excellent swimmers, and dive well, using both feet and wings for their propulsion, so that their movements beneath the water are performed with admirable rapidity and precision. Their flight is rapid, but hurried, and, owing to the shortness of their wings, whirring and noisy. So numerous are these birds in the neighborhood of their breeding-places, that (more especially if it be a rock of pyramidal form) they resemble, at a distance, a great swarm of bees."

Cassin's Guillemot. Aleutian Auk. (*Ptychorhamphus aleuticus.*)

Fig. 8.

This rare and striking little species is found on the western and northwestern coast of America, and was first added to our fauna by the late Dr. William Gamble. "The little Auk," says Brehm, "must certainly be regarded as the gayest and briskest member of its family. When visiting the shore, it steps nimbly along on its toes, vanishes from observation among the stones, or creeps like a mouse into crevices in the rocks. When out at sea, it swims and dives with wonderful alacrity, remaining under water for even more than a couple of minutes. During the breeding season, the little Auks congregate in immense numbers in the vicinity of the islands on which the eggs are to be deposited. Each pair seeks a suitable spot among the stones that have fallen upon the beach, and then lays a single egg of about the same size as that of the Pigeon, and of a whitish color, slightly tinged with blue."

Black Oyster-catcher. Bachman's Oyster-catcher. (*Hæmatopus niger.*)

Fig. 9.

This bird, as stated by those who have observed it, is restricted to the Pacific Coast. Its food consists of mollusks and insects. The habits of this species are similar to the Oyster-catcher (*Hæmatopus palliatus*), figured on Plate XLII, and described on page 58.

PLATE XCIV.

Baird's Sparrow. Baird's Bunting. (*Centronyx bairdii.*)

Fig. 1.

For a long time, this was considered a very rare bird. We believe it was about thirty years between the time of its first discovery and the observing and taking of it by Dr. Coues in Dakota, and by Mr. Allen in Colorado. It is now considered an abundant species in the region of its migrations, which takes in the central plains, north to the British provinces, south to New Mexico and Arizona, east nearly to the Red River of the North, West to the Rocky Mountains.

"The song," says Coues, "is peculiar, consisting of two or three distinct syllables, in a mellow, tinkling tone, running into an indefinite trill; it may be suggested by zip-zip-zip-zr-r-r-r. In their general appearance and habits, these birds are so nearly the same as the Savannah Sparrows, that it was two or three days before I learned to distinguish them at gunshot range. They do not go in flocks; yet there is a sort of colonization among them; for we may ride a mile or two over the prairie without seeing any, and then come upon numerous pairs, breeding together." The nest, according to Allen, "is a slight structure of grasses and weed-bark, circularly disposed, about four inches across outside. It contained five fresh eggs, most nearly resembling those of the Bay-winged Bunting, but smaller, and decidedly more rounded. They measure 0.80 by 0.65. The ground is dull white, speckled all over, but very irregularly, with light reddish brown (pale sienna), and have a few larger blotches of the same and a darker shade, owing to heavier laying on the pigment."

Green-tailed Finch. Blanding's Finch. (*Pipilo chlorurus.*)

Fig. 2.

This is one of our abundant species, that is usually met with in the regions of the Southern Rocky Mountains, accompanied by others of the fringillian birds.

In a late communication to Dr. Coues, Mr. Allen observes: "This is one of the most interesting birds met with in the wooded portions of the great central plateau of the continent. In the mountains of Colorado, it ranges from the foot-hills up to the limit of trees, and throughout the mountain valleys is one of the more common species. It affects the moister thickets, near the streams, and possesses a peculiar and very pleasing song. In habits or notes, it has but little resemblance to the group of Towhees with which it is commonly associated by systematic writers, presenting in these respects far more resemblance to the group of Sparrows so familiarly represented in the Atlantic States by the common White-throat, from which it only differs structurally in its relatively longer tail."

Mr. Trippe's notes upon the same subject will be read with interest: "The Green-tailed Finch is abundant throughout Clear Creek county, from its lower valleys up to within 700 or 800 feet of timber-line, breeding throughout; but is most numerous, during the breeding season, from 7,500 to 9,000 feet. It arrives at Idaho early in May, and soon becomes abundant, remaining till the close of September, or early part of October. It is a sprightly, active little bird, with something Wren-like in its movements and appearance. It is equally at home among the loose stones and rocks of a hill-side (where it hops about with all the agility of the Rock Wren), and the densest thickets of brambles and willows in the valleys, amidst which it loves to hide. It is rather shy, and prefers to keep at a good distance from any suspicious object; and if a cat or dog approaches its nest, makes a great scolding, like the Cat-bird, and calls all the neighbors to its assistance; but if a person walks by, it steals away very quietly, and remains silent till the danger is passed. It has a variety of notes, which it is fond of uttering; one sounds like the mew of a kitten, but thinner and more wiry. Its song is very fine, quite different from the Towhee's, and vastly superior to it. It builds its nest in dense clumps of brambles, and raises two broods each season, the first being hatched about the middle of June."

Chestnut-collared Lark Bunting. Chestnut-collared Longspur. Black-bellied Longspur. (*Plectrophanes ornatus.*)

Fig. 3.

This is another of our abundant species, that is to be met with in the interior of the British provinces, and the whole of the Missouri region.

"Mr. Allen sends me the following notice, prepared for this work (Birds of the Northwest, by Dr. Coues): 'The Chestnut-collared Bunting was found on the plains about Fort Hays, in considerable abundance. They live in summer in large scattered colonies, generally many pairs being found at the same locality, while they may not be again met with in a whole day's travel. We found them very shy for so small birds, and were obliged to obtain all our specimens (some thirty in number) by shooting them on the wing at long range. They breed, of course, on the ground, constructing a rather slight but neat nest of dry grass and the stems of small plants. The eggs appear to be commonly five in number, blotched and streaked with rusty on a white ground, full sets of which were obtained the first week in June. This species has the curious habit of circling round the observer, with buoyant, undulatory flight, generally high in the air, and usually keeping all the while well out of range, uttering, meanwhile, its rather sharp but musical call-notes. I met with it, in winter, from Fort Hays westward, nearly to the Colorado line, indicating that it is resident here the whole year. We failed to meet with it, however, about Cheyenne, in August, or anywhere to the westward of Western Kansas; neither does it appear in Mr. Aiken's list of the birds observed by him near Canon City, Colorado, nor in Mr. Holden's list of the birds seen by him in the vicinity of Sherman.'"

Maccown's Bunting; or Longspur. (*Plectrophanes maccownii.*)

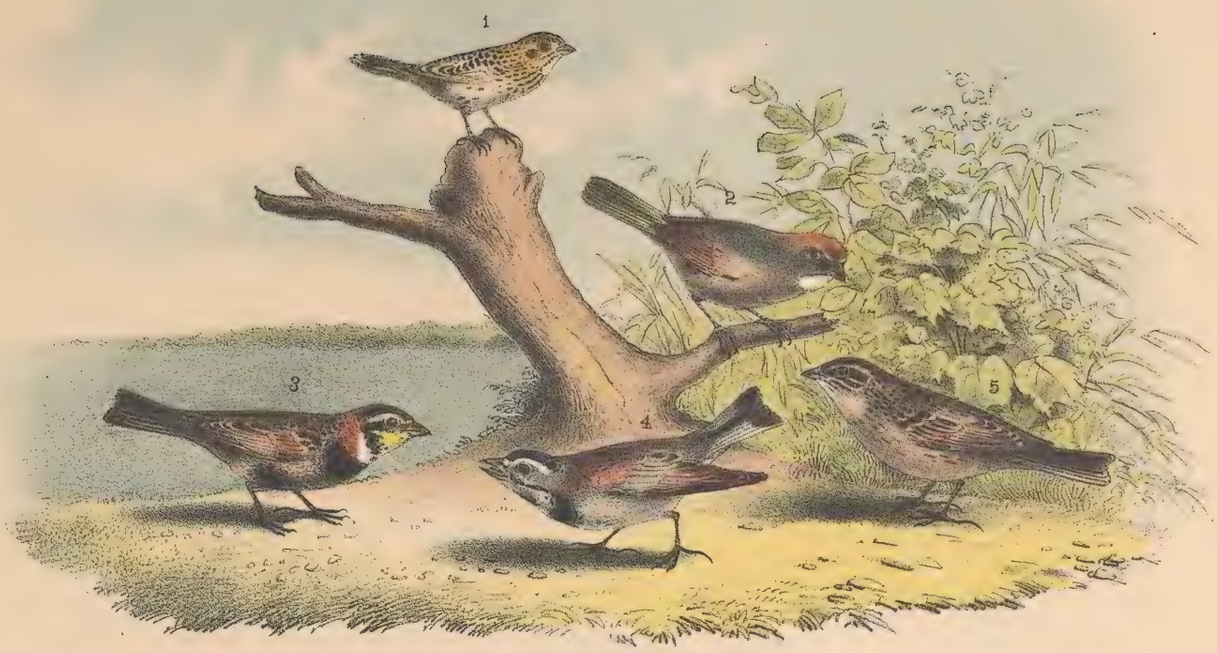
Fig. 4.

This species was first discovered by Captain Maccown, in Western Texas. It is met with in the middle province of the United States, thence north to the Black Hills, and east to Kansas, Texas, and New Mexico. Its habits and notes are very similar to the last-named species—Chestnut-collared Lark Bunting.

Painted Lark Bunting. Painted Longspur. (*Plectrophanes pictus.*)

Fig. 5.

This is one of our uncommon species, and, when met with, is usually in company with the Chestnut-collared Lark Bunting. They are also very similar in their habits and general appearance.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Black Flycatcher. (*Sayornis nigricans.*)

Fig. 6.

This is an abundant species in its resident territory, along rocky streams, and in unwooded country, in the southwestern portions of the United States.

Cooper says: "They often sit for hours on the end of a barn or other perch, uttering their monotonous, but not unpleasing, ditty, which sounds like 'pittie, pittit,' alternately repeated, much like the cry of the eastern Pewee or Phœbi-bird (*S. fuscus*), which is their exact analogue in habits. They fly only short distances at a time, turning and dodging quickly in pursuit of their prey, which they capture with a sharp snap of the bill."

Say's Flycatcher. (*Sayornis sayus.*)

Fig. 7.

This is another of our abundant Western North American species. Its habits are similar to the last-named—the Black Flycatcher.

Black-headed Grosbeak. (*Goniaphea melanocephala.*)

Fig. 8.

"This interesting western ally and representative of our Rose-breasted Song Grosbeak is of common and very general occurrence in the middle and western provinces of the United States. The easternmost instance is, I believe, that recorded by Mr. Allen, who found the bird in Middle Kansas, breeding, in June. He saw young birds on the 11th, and the eggs of a second brood toward the end of the month. I have not observed any references beyond the United States to the northward; in the other direction, the bird appears to extend through Mexico, on the table-lands. Many reside in that country; others, obeying the mysterious impulse of migration, enter the United States in April, and become extensively dispersed, as we have just seen, retreating to their warm winter quarters in the fall. In the mountains of Arizona, I found it to be an abundant summer resident from the beginning of May until the end of September. It appeared to shun the pine woods, preferring ravines wooded with deciduous trees and upgrown to shrubbery, as well as the thick willow-copses that fringe the mountain streams. Like others of the same beautiful genus, it is a brilliant and enthusiastic vocalist, its song resembling that of the Rose-breasted Grosbeak, and having much similarity to that of the Baltimore Oriole. As I have elsewhere remarked, its ordinary chirp, or call-note, strikingly resembles that of Gambel's Plumed Quail—so closely, indeed, that I never could tell which of the two I was about to see, both species often being found together in the creek bottoms. It feeds at times extensively upon willow-buds, and similar soft, succulent vegetable matter; also upon seeds and berries, in their season, and upon various insects. Mr. Allen has noted its fondness for peas, causing it to be ungraciously regarded by the agriculturists of Utah."—*Coues.*

Rusty Song-Sparrow. (*Melospiza rufina.*)

Fig. 9.

This is the more northern variety of our common Song-Sparrow, represented on Plate IV, figures 4 and 5, described on page 4. Its range extends from Alaska to California.

Townsend's Finch, or Sparrow. Slate-Colored Sparrow. Fox Sparrow. (*Passerella townsendii.*)

Fig. 10.

This species is the Pacific Coast variety of the common Fox Sparrow, figure 6, Plate LVI, and described on page 82. Cooper, in his Ornithology of California, says:

"While, with us, they are rather shy and silent birds, frequenting the woods and thick bushes, where they are constantly scratching among the dead leaves, gaining a scanty subsistance from seeds and insects."

PLATE XCV.

American Lanier, or Prairie Falcon. Lanier Falcon. Prairie Hawk. (*Falco mexicanus, var. polyagrus.*)

Fig. 1.

"The comparatively late discovery of this bird as an inhabitant of the United States is particularly interesting, not only as giving us a hitherto unknown representative of the familiar Lanier group of Falcons of the Old World, but also as adding another to the numerous instances of close alliance of *Western* American birds to certain Old World forms.

"This interesting bird is of general distribution in open country throughout the West, and rather common. It appears to be essentially a prairie species, a circumstance probably explaining its occurrence in Illinois, where it was noted by Mr. J. D. Sargent and Mr. R. Ridgway. Prof. Snow catalogues it as rare in winter in Kansas. Dr. Hayden remarks that it is found at various points along the Missouri and on the Platte, though not abundantly. Several observers found it in New Mexico and Arizona. On the Pacific coast, it is known to occur at various points, from Fort Dallas, Oregon, where it was procured by Dr. Suckley, to Monterey, whence came one of the types of the species. It appears to be particularly abundant in the open portions of Southern California, where Dr. Cooper told me he often saw it, in company with the Ferruginous Buzzard, resting on the ground, or flying low over the surface in the neighborhood of the villages of the California ground squirrel (*Spermophilus beecheyi*), for which animals it was doubtless on the watch. The only time I ever saw it alive was in this region. While at Drumm Barracks, one of these birds dashed past, returned in an instant, and alighted on the roof of the house, while Dr. Cooper and I were standing on the porch. It had evident designs upon the Blackbirds, thousands of which were scurrying about. Watching the bird for a few moments, and perceiving it had no intention of leaving at that particular time, I went into the house for my gun, and loaded for its especial benefit. The bird watched the whole proceedings, eyeing me audaciously, and never stirred from its perch until I made an irresistible appeal. I found it to be a young bird, the iris brown, the feet dull bluish, the claws black, the bill bluish black, with the base of the under mandible yellow.

"This Falcon is inferior to none of our country in strength and spirit, unless it be that the Gyrfalcon surpasses it in this respect. It even attacks and overpowers the great hares of the West (*L. callotis* and allies)—animals actually larger and heavier than itself."—*Coues.*

American Barn Owl. Barn Owl. (*Strix flammea, var. Americana.*)

Fig. 2.

The type of this division of the family of Owls is met with in most all the temperate parts of the globe. Our variety is found in the United States as far north as Long Island, and southerly from the Atlantic to the Pacific, but is rarely ever seen in the interior.

According to Cooper, it is abundant throughout the southern part of California, especially near the coast, frequenting chiefly old buildings, barns, etc., but often found hid in dark thickets and hollow trees. It closely resembles the European Barn Owl, and others of almost every part of the world, and its habits seem to resemble closely those of its Old World relative. In the Atlantic States, it is said rather to avoid human habitations; but this is probably on account of the thoughtless persecution too much practiced among our countrymen against all Owls, under the impression that they destroy fowls. Careful observations of the habits of the European species have shown that they very rarely ever do so, and that, on the contrary, they destroy an incredible number of rats and mice—in fact, more than they and their young can eat, a pair of old ones being watched, and seen to arrive at the nest every few minutes with a rat or mouse, during the early night. When flying about at dusk, they utter a variety of loud, harsh, and rather strange cries, which are sometimes heard throughout the night. Their nest is merely the natural floor of the cavity in which they live, and their eggs are said by Nuttall to be three to five, of a whitish color.

Pygmy Owl. (*Glaucidium passerinum* var. *Californicum.*)

Fig. 3.

This straightforward and unsuspicious little Owl is found in the Western Province of North America. It is a common species, but is difficult of observation on account of their retiring and unobtrusive habits. Its food consists of small birds and insects. The nest is usually built in knot-holes. Dr. Newberry writes of this species: "It flies about with great freedom and activity by day, pursuing small birds, upon which it subsists, apparently as little incommoded by the light as they are." Dr. Luckley says: "I have obtained two specimens of this Owl at Puget Sound, where it seems to be moderately abundant. It appears to be diurnal in its habits, gliding about in shady situations in pursuit of its prey. I saw a bird of this kind, about midday, in a shady alder swamp near Nisqually. It flitted noiselessly past me several times, alighting near by, on a small branch, as if to examine the intruder. It seemed quite tame, and entirely unsophisticated."

Ferrugineous Owl. Red-tailed Owl. (*Glaucidium ferrugineum.*)

Fig. 4.

In size, shape, and habits, this species is similar to the Pygmy Owl. It is met with throughout the whole of eastern South America, and middle America, and north into the southern borders of the United States. In Mexico it is a very common bird.

Burrowing Owl. (*Speotyto cunicularia*, var. *hypogæa.*

Fig. 5.

This species is to be met with in the open places in the country between the Pacific coast and the Mississippi river. It is a common and familiar species, and may be seen at all times of the day, in company with the large ground-squirrel, living with them, as companions, in their deserted burrows. Their call note sounds somewhat similar to the word "cuc-koo," which is continued through the month of March, and occasionally during the day throughout the year. Its food consists of small birds, mice, and insects, for which they seek at night.

Harris' Finch or Sparrow. Black-hooded Sparrow. (*Zonotrichia querula.*)

Fig. 6.

Nuttall first described this species from specimens taken by him in 1840, in the State of Missouri. It is a bird of commanding appearance, and is met with in the Missouri region. Its habits and song resemble those of the White-throated Sparrow, figured on Plate XXXVI., and described on page 49.

Oregon Snow-bird. (*Junco oregonus.*)

Fig. 7.

The range of this species is from the Rocky Mountains to the Pacific coast. In summer this Snow-bird is found inhabiting the pine woods of the mountains, and in winter it descends to the lowlands, entering towns and gardens in the same manner as its relation figured on Plate XXXVIII., and described on page 53.

PLATE XCVI.

Canada Grouse. Spruce Grouse. Wood Grouse. Swamp Partridge. Black Grouse. Black-spotted Heath Cock. (*Tetrao canadensis.*)

Fig. 1.

This species is found in favorable localities, from the northern parts of the United States, from whence it extends its migrations as far north to the limit of the woods, and to the Arctic ocean. The black-spruce forests between Canada and the Arctic Sea are a favorable abiding place of this species. An interesting account of this bird by Archer, author of "Game of Arctic Lands," appeared in Vol. IX., No. 9, of the *Chicago Field*, from which we take the following extracts:

"There are few Grouse in the fauna of North America of which so little is known by sportsmen and the people at large, as the subject of this chapter. It is seldom that the former consider it worth their while to spend a few hours in its pursuit alone, for in some inconceivable manner they have obtained the impression that the Wood Grouse is totally wanting in all attributes which constitute gameness, and that in table qualifications it is at any time inferior to all other known species. The sooner the public are disabused of such errors the better. These desirable qualities are not lacking in this species, but, as with other Grouse, depend largely upon the local habits of the birds, and the season at which they are pursued. In the deep, coniferous forests and dark swamps, seldom pressed by the foot of man, it can not be expected that they would be otherwise than tame. The researches of scientists and naturalists lead us to believe that the fear of man is an implanted instinct, and it is only as this destroyer encroaches upon their haunts, and ruthlessly pursues them for his own purposes, that they learn to fear him; consequently birds acquire the characteristics which constitute gameness as a means of protecting them from their hitherto unknown enemy. So, too, this beautiful bird develops these qualities only as the northern forests are opened up by the pioneer and land-hunter; and, a few years hence, it is highly

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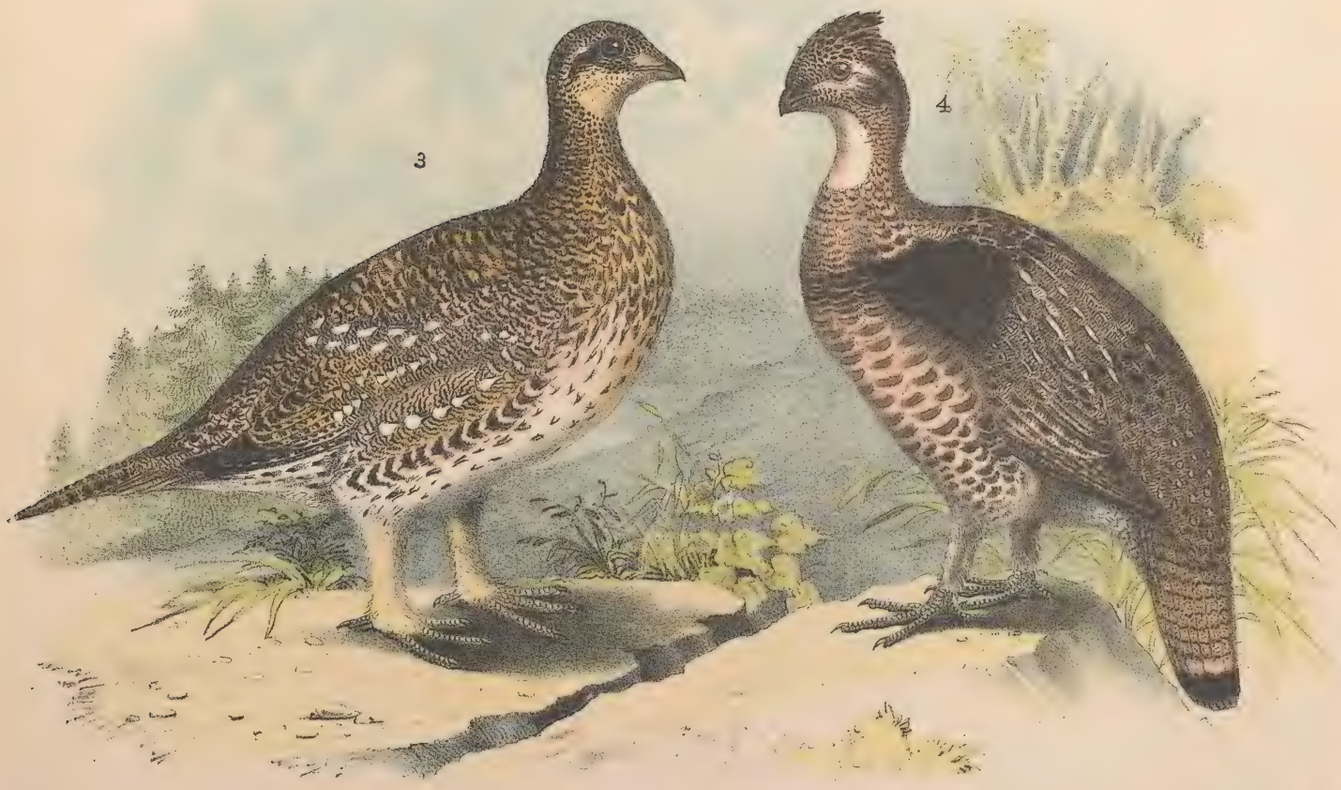
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probable that this Grouse will be almost the only game available for the amusement and gratification of the sportsman."

"In their movements upon the ground these birds are peculiarly graceful, imitating the walk of the quail, rather than the grouse, never, seemingly, exhibiting the peculiar flirt of the tail, so characteristic of the ruffled variety (*Bonasa umbellus*); but the step is a stately one, embodying a great amount of dignity and pride for so small a bird, which conveys a very pleasing picture to the eye as it moves over the long, elastic moss, so abundant in the muskys and swamps which it inhabits."

"In summer the Wood Grouse feeds upon the various wild fruits, as well as the buds and leaves of numerous plants and shrubs; and even larvæ and beetles are most eagerly sought. In autumn, when they gorge themselves with the berries of the Solomon's seals (*polygonatum* and *smi lacina*), the flesh attains a delicate flavor, and becomes in no way inferior for the table to that of other Grouse; but in winter it is darker, that which was before of a rich, reddish brown, assuming a blackish hue, and acquiring a peculiar bitter, piny taste—'a flavor of fir tops,' as some one has it, owing to the nature of the food consumed. An examination of their crops at this season reveals the fact that they feed mainly on the buds and leaves of the pine, larch, hackmatack, spruce, and other coniferæ. Some epicures, however, enjoy, and even prefer this strong, resinous flavor. The nest of this species is constructed from leaves and moss, artistically arranged over a groundwork of twigs, and concealed beneath the dark, overhanging branches of a dwarf spruce or fir. The eggs are from ten to eighteen in number, and present a dull cream or fawn color, beautifully speckled and spotted with brown."

Willow Grouse. Willow Ptarmigan. White Ptarmigan. (*Lagopus albus.*)

Fig. 2.

This species is an inhabitant of Arctic America, from New Foundland to Sitka, on the shores of Hudson's Bay. They may be seen during the winter season assembled together in large flocks, and, according to Mr. Hutchins, they have been captured by the ten thousand in a single season at Severn river. Thickets of willows and dwarf birches are said to afford them shelter during the severe cold weather of winter, and their food during the time consists of the buds of the smaller shrubs. *"When pursued by sportsmen or birds of prey, they often terminate their flight by hastily diving into the loose snow, making their way beneath its surface with considerable celerity. In thick, windy, or snowy weather, they were very shy, perching on the taller willows, when it required a sharp eye to distinguish them from flakes of snow. In the summer season they feed chiefly on the berries of the Alpine arbutus and other shrubs and plants, which are laid bare by the thaw, and which do not disappear until they are replaced by a new crop. They incubate about the beginning of June, at which time the females molt. The males assume their red-colored plumage as soon as the rocks and eminences become bare, at which time they are in the habit of standing upon large stones, calling in a loud and croaking voice to their mates, which, still in their white wintery garb, are hidden in the snows below. These birds are more usually in motion in the milder light of night than in the broad glare of day."

Northern Sharp-tailed Grouse. (*Pediæcetes phasianellus.*)

Fig. 3.

There are two varieties of this species, the Northern and Southern. The first-named is an inhabitant of the Arctic regions, where they may be met in coveys of from twelve to eighteen, and in abundance, throughout the wooded districts of the fur countries, frequenting the open glades or low thickets on the borders of the lakes, especially where the forests have been partially cleared. During the winter they are usually perched on trees, but in summer they keep to the ground. In winter these birds hide themselves in the snow, passing through the loose drifts with ease. At this season their food consists of buds of the willows, larches, and aspens, and in summer their food consists principally of berries. The nest, which is usually built on the ground, is composed of grasses, and lined with feathers, in which the female lays about twelve eggs.

Western Ruffed Grouse. Oregon Grouse. (*Bonasa umbellus*, var. *Sabini.*)

Fig. 4.

This species is the western variety of the well-known Ruffed Grouse, represented on Plate LXXVIII., and described on page 120. Dr. Cooper says: "It is an inhabitant of the forests, especially those of deciduous trees along streams, and about the borders of prairies, but never ventures far from the woods. At times they feed about grain-fields, and early in the morning are fond of dusting and sunning themselves on roads. From the dense covert they usually inhabit they are not easy to shoot, but often alight in trees, and, if quickly shot at, give time for killing them before flying.

PLATE XCVII.

Mexican Trogon. (*Trogon mexicanus.*)

Fig. 1.

This beautiful species is an inhabitant of the valley of the Rio Grande, and, like all members of its family, is possessed of gorgeous colors. It is usually met with in woods and forests, especially preferring such as have a considerable height above the level of the sea. The beauty of this bird can best be seen when it is floating along in the air. Its song consists of a piping note, and its food consists mostly of fruit and insects.

Mot-Mot. Blue-headed Sawbill. Sawbill. (*Momotus cæruleiceps.*)

Fig. 2.

This species is an inhabitant of Mexico, and is the only representative that is occasionally met with in the United States. They are said to lead a retired life, either alone or in pairs, and far from the abode of man; their cry, which resembles a note from a flute, is most frequently heard in the morning and evening. Insects afford their principal means of subsistence, and these they obtain in a great measure from the surface of the ground.

Costa Hummingbird. (*Selasphorus costæ.*)

Fig. 3.

This Hummingbird is a resident of the Colorado Valley, South and Lower California. Its habits are doubtless similar to that of the Anna Hummingbird, represented on Plate LXXIII., and described on page 111.

*North American Birds, vol. 3, p. 459.

Morelet's Finch. Little Seed-eater. (*Spermophila morelettii.*)

Fig. 4.

The range of this pretty little bird is from Mexico to Texas. It is a rare species, and is admitted to our fauna by its being occasionally met with on the Rio Grande. It was first described by Prince Bonaparte, from a specimen in the Paris Museum, taken near the Lake of Peten, in Guatemala, by M. Morelet.

Cactus Wren. Brown-headed Creeper Wren. (*Campylorhynchus brunneicapillus.*)

Fig. 5.

This species is considered the largest of the family, and is found to be common along the line of the Rio Grande, and the southwestern borders of the United States, especially in places where the country presents a broken surface and a confused mass of volcanic rocks, covered with thorny bushes and cacti. It is a lively bird, and occasionally utters a few trill ringing notes. Its food consists of berries and insects. According to Dr. Heerman, the nest is composed of grasses and lined with feathers, was in the shape of a long purse, enormous for the size of the bird, and laid flat between the forks or on the branches of a cactus. The entrance was a covered passage, varying from six to ten inches in length. The eggs, six in number, are described as being of a salmon color, very pale, and often so thickly speckled with ash and darker salmon colored spots as to give quite a rich cast to the whole surface of the egg.

Hepatic Tanager. Liver-colored Tanager. (*Pyranga hepatica.*)

Fig. 6.

This beautiful Tanager is met with in the Southern Rocky Mountains of the United States, and in the mountainous regions of Mexico. Dr. Woodhouse obtained the first specimen in the San Francisco mountains of Arizona. It was a full grown female, and is the only one known to have been discovered in the United States.

White-throated Swift. Rock Swift. (*Panyptila saxatilis.*)

Fig. 7.

Dr. Kennedy first discovered this species on Bill Williams' Fork, New Mexico, in 1864. He speaks of it as a very curious and interesting bird, found by him only among the canons of that stream, and not observed elsewhere during their journey. Large flocks could be seen at any time in the vicinity of those canons, flying and circling around very high, and far beyond the reach of shot. Toward the close of the day, when the sun had sunk behind the hills, they occasionally descended lower. He only met with them where the walls of the canons were very high, and consisted almost of perpendicular masses of rock. At times they were seen to sweep low down, and then to ascend nearly perpendicularly very near the stones, as if examining them, in order to select a place for their nests. The construction of these had obviously not then commenced. Mr. Mollhausen was of the opinion that these birds build in the holes and crevices of the cliffs. According to Mr. Ridgway it is a very noisy species, having a vigorous chatter, reminding one somewhat of the notes of young Baltimore Orioles when being fed by their parents.

Cassins Purple Finch. (*Carpodacus cassini.*)

Fig. 8.

Rocky Mountains and valley of the Colorado to the Sierra Nevada is the habitat of this species. It is similar in its habits to the Purple Finch, represented on Plate XLVIII., fig. 10, and described on page 69.

Mountain Song Sparrow. (*Melospiza melodia*, var. *fallax.*)

Fig. 9.

This species is the Rocky Mountain variety of Song Sparrows, distributed from the Atlantic to the Pacific. In habits and song it is similar to the species represented on Pate IV., figs. 4 and 5, and described on page 4.

Canon Finch. Canon Bunting. Brown Towhee. Canon Towhee. (*Pipilo fuscus*, var. *mesoleucus.*)

Fig. 10.

This little species is met with in the valley of the upper Rio Grande. It was first discovered by Dr. Kennedy, naturalist to the Pacific Railroad expedition, on the 35th parallel. He met with it at Bill Williams' Fork, in Arizona, in 1854. Its habits are similar to those of *Pipilo aberti.*

Abert's Towhee. Abert's Finch. (*Pipilo aberti.*)

Fig. 11.

This is one of the most plainly colored, as well as perhaps the largest of our North American Finches. Dr. Cooper assigns the base of the Rocky Mountains, in New Mexico, and the valleys of the Gila and Colorado rivers, as the habitat of this species, and, according to Dr. Coues, it is one of the most abundant and characteristic birds of those two valleys, and also that it ranges northward to within a few miles of Fort Whipple, but is not found in the adjacent mountains. Like the Canon Bunting, it lives mostly on the ground. The nest is usually built in thorny shrubs, and is composed of coarse twigs, green herbs, interwoven with strips of bark, grass, and leaves, and lined with horse-hair when it can be obtained.

PLATE XCVIII.

Swallow-tailed Kite. (*Nauclerus furcatus.*)

Fig. 1.

This beautiful species is common in the South Atlantic and Gulf States, and occasionally extends its migrations to the interior of the State of Wisconsin. Regarding its habits, Dr. Coues says:

"Marked among its kind by no ordinary beauty of form and brilliancy of color, the Kite courses through the air with a grace and buoyancy it would be vain to rival. By a stroke of the thin-bladed wings and a lashing of the cleft tail, its flight is swayed to this or that side in a moment, or instantly arrested. Now it swoops with incredible swiftness, seizes without a pause, and bears its struggling captive aloft, feeding from its talons as it flies; now it mounts in airy circles till it is a speck in the blue ether and disappears. All its actions, in wantonness or in severity of the chase,

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display the dash of the athletic bird, which, if lacking the brute strength and brutal ferocity of some, becomes their peer in prowess—like the trained gymnast, whose tight-strung thews, supple joints, and swelling muscles, under marvelous control, enable him to execute feats, that to the more massive or not so well conditioned frame would be impossible. One can not watch the flight of the Kite without comparing it with the thoroughbred racer.

"The Swallow-tailed Kite is a marked feature of the scene in the Southern States, alike where the sunbeams are redolent of the orange and magnolia, and where the air reeks with the pestilent miasm of moss-shrouded swamps that sleep in perpetual gloom. But, imbued with a spirit of adventure, possessed of unequaled powers of flight, it often wanders far from its southern home; it has more than once crossed the ocean, and become a trophy of no ordinary interest to the ardent collector in Europe. On the Atlantic coast its natural limit appears to be the lower portions of Virginia, similar in physical and zoological characters to the Carolinas; but it has more than once occurred in the Middle States.

"I have before me an egg of this species, from the Smithsonian collection taken in Iowa. It measures 1.90 by 1.50; one end is smaller than the other, though the greatest diameter is nearly equidistant from either. The ground-color is white, but tinged, as if soiled or otherwise mechanically discolored, with a faint brownish shade; it is marked with large, irregular blotches of rusty and chestnut-brown, most numerous around the smaller end. Besides these there are some specks and small spots of blackish-brown.

"As if in compensation for its powers of flight, this bird's legs are so short as to be scarcely serviceable for locomotion, and it rarely, if ever, alights on the ground. Its food is principally reptiles and insects. It is found in winter in Central and South America, and is said, whether or not with entire truth I do not know, to withdraw altogether from the United States in September, to return in April. It appears to breed indifferently throughout its normal United States range."

Marsh Hawk. Marsh Harrier. American Harrier. (*Circus cyaneus*, var. *hudsonius.*)

Fig. 2.

The geographical distribution of this species is co-extensive with our continent south to Costa Rica. With the exception of the southeastern portion of the United States, it is everywhere abundant. According to Audubon its notes resembles the syllables, *pee-pee-pee.*

The Marsh Harrier, says Coues, belongs among the "ignoble" birds of the falconers, but is neither a weakling nor a coward, as one may easily satisfy himself by handling a winged bird. Still, under ordinary circumstances, its spirit is hardly commensurate with its physique, and its quarry is humble. It lacks the splendid action that insures success, in the pursuit of feathered game, to the dashing Falcons and true Hawks; with all its stroke of wing, it acquires no such resistless impetus. Audubon, indeed, says that at times, when impelled by hunger, it will attack Partridges, Plovers, and even Teal; but he adds, that he once saw a Marsh Hen come off victorious in a battle with the Harrier. It ordinarily stoops to field-mice, small reptiles, and insects. It is particularly fond of frogs; these goggle-eyed and perspiring creatures suffer more from the Harriers than from all the school-boys that ever stoned them of a Saturday afternoon. The birds thus particularly resemble the Rough-legged Buzzards in the nature of their prey, and we can see a reason why they are so tenacious of their watery preserves. They hover at no great height, keenly surveying the ground below, and drop directly on their quarry when it is descried. They rarely pursue their prey or transport it to any distance when secured, preferring to make a meal on the spot. Hence it frequently happens that, when walking in seedy covert, the gunner puts up a Marsh Hawk, disturbed at its repast in the thick vegetation, that served alike to screen the bird and cover his own advance. At such a time, as the bird flaps up and makes off at its best pace, it may be brought down with the greatest ease. With wings of ample dimensions—even to be called long in proportion to its weight—the bird, nevertheless, does not fly very fast; it proceeds ordinarily with regular, easy strokes, three or four times in succession, and then sails until the impulse is exhausted. It often courses very low over the ground, and rather swiftly, turning, passing, and repassing, "quartering" the ground, like a well broken dog. This is the habit that has given it the name of "Harrier," and, in some sections, the less elegant designation of "Bog-trotter." The old male is also sometimes called "Blue Hawk."

Western Red-tail. Red-tailed Black Hawk. Black Red-tail. Hen Hawk. Red-tailed Buzzard. (*Buteo borealis*, var. *calurus.*)

Fig. 3.

This is a western variety of a species so generally found in all parts of North America. Its habits are the same as the bird represented on Plate XXX., and described on page 37.

Swainson's Hawk. Swainson's Buzzard. (*Buteo swainsonii.*)

Fig. 4.

We copy, from Dr. Coues' interesting account of this species, the following:

"This large Hawk is very abundant in Northern Dakota, where it came under my almost daily observation during the summer of 1873. Excepting an occasional Rough-leg or Red-tail, it was the only buteonine species observed, and the only Hawks more common were the ubiquitous Marsh Harriers and Sparrow Hawks. The species is thoroughly distinct from its nearest ally, *B. borealis;* it never gains the red tail, so characteristic of the latter, and differs in many other points of coloration in its several stages of plumage, as noted beyond. Although its linear dimensions intergrade with those of the Red-tail, it is not so heavy nor so large a bird, and its shape differs in some points. A very tangible and convenient distinction, to which my attention was first called by Mr. Ridgway, and which I have verified in numerous instances, is found in the emargination of the primaries. As stated in my late work (Key N. A. Birds, p. 217), Swainson's Buzzard has only *three* emarginate primaries, while the Red-tail has *four;* the fourth quill of the former, like the fifth of the latter, is variously sinuate-tapering, but never shows the decided nick or emargination of the inner web.

"Swainson's Buzzard may be seen anywhere in the region mentioned, even far out on the prairie, miles away from timber, circling overhead, or perched on the bare ground. In alighting, it generally takes advantage of some little knoll commanding a view around, though it often has no more prominent place than the heap of dirt from a badger's hole, from which to cast about for some imprudent gopher, espied too far from home, or still more ignoble game. But the bird prefers timber, and, especially as its nesting is confined to trees, it is most frequently observed in the vicinity of the few wooded streams that diversify the boundless prairie. In Northern Dakota such streams cut their tortuous way pretty deeply into the ground; and the sharp edges of the banks, rising steep on one side, and on the other stretching away on a continuous level, are favorite resting-spots, where sometimes a line of several birds may be observed strung along a distance of a few yards. The Souris or Mouse river, a stream of this description, is a favorite resort, where I found the birds more numerous than elsewhere. Much of the river-bottom is well wooded with elm, oak, and other large trees; and the number of nests found in this timber—some-

times several in sight of each other—would be considered surprising by one not recollecting that conveniences for breeding are in this country practically limited to such narrow tracts. The nests are built at varying heights, from the intricacies of heavy shrubbery, where a man may reach them from the ground, to the tops of the tallest trees. They are generally, however, placed thirty or forty feet high, in some stout crotch, or on a horizontal fork. They are bulky and ragged looking structures, from the size of sticks used for the base and outside; the interior is composed of smaller twigs more compactly arranged. The shape varies with the requirements of the location, being more or less conical in an upright crotch, flatter on a fork. The interior hollowing is slight. An average external diameter may be given as two feet, and depth half as much."

PLATE XCIX.

Black-footed Albatross. (*Diomedea nigripes.*)

Fig. 1.

This is a very abundant species, found along the Pacific coast. According to Dr. Brehm, the Albatrosses claim the vast ocean of the southern hemisphere as their habitat. A few, it is true, have been occasionally seen even off the coasts of Europe, but such circumstance can only be regarded as an accidental occurrence. They seldom or never pass beyond the tropic of Capricorn, at least in the Atlantic, and even then only as occasional wanderers. They appear more frequently, however, in the northern regions of the Pacific ocean; they are also said to make regular visits to Behring's Straits and the Sea of Ochotsk, and not only casually to show themselves upon those unfrequent shores, but to reside in their vicinity during several months, only retiring beyond the equator as the season for breeding approaches. In like manner, they are frequently met with in high Antarctic latitudes—i. e., as we are informed by sailors and fisherman, up to 50° or 60° south latitude; but whether these are regular migrations, or merely casual excursions, we are not as yet informed. We know, however, that they visit all seas lying between 23° north and 66° south latitude; that when they come into more northern climes, as into Kamtschatka and Ochotsk, they are hungry, lank, and half-starved, but that, in a few weeks, owing to the abundance of food they there meet with, they return to their breeding-places plump and in good condition. It is said by some observers, that, in the literal meaning of the words, their flight extends quite around the globe, being generally, however, more or less restricted within the limits of a certain zone, from which they never wander far during the whole course of the year, and within which they likewise breed.

Brandt's Cormorant. (*Graculus penicillatus.*)

Fig. 2.

This bird is found to be a very common species on the Pacific coast. As all Cormorants are very much alike in their habits, we refer the reader to page 13 for a detailed account.

Violet Green Cormorant. (*Graculus violaceus.*)

Fig. 3.

This species is also found on the Pacific coast. Its habits are very similar to the Cormorant described on page 13.

Florida Cormorant. (*Graculus dilophus*, var. *floridanus.*)

Fig. 4.

This species is a southern variety of the Double-crested Cormorant. It is a resident on the Floridian and Gulf coast. Its migrations range up the Mississippi valley to Ohio.

PLATE C.

Least Vireo. (*Virio pusillus.*)

Fig. 1.

Mr. Xantus first discovered this species at Cape St. Lucas, and Dr. Coues gave it its first description in 1866. Dr. Cooper claims that in its habits it greatly resembles the Warbling Vireo, page 72 of this work. According to Mr. Ridgway, it is a species easily recognized, being, in all respects, quite distinct from any other. The character of its notes, as well as its habits, show it to be a true Vireo. Its song, though weaker, bears a great resemblance to that of the White-eyed. The nest found of this species, was placed about three feet from the ground, in a low bush in a copse of willows. Like all the nests of these Vireos it was pencile, being attached to, and suspended from, the twigs of a branch.

Bell's Vireo. (*Vireo belli.*)

Fig. 2.

This species is met with from the Missouri river west to the Rocky Mountains. Its habits are very similar to that of the White-eyed Vireo, described on page 71 of this work. Its notes are somewhat imitative of those of the Blue-bird, differing altogether from those of other Vireos.

Gray Vireo. Arizona Vireo. Gray Greenlet. (*Vireo vicinior.*)

Fig. 3.

Very little is known of this rare species, which was first discovered by Dr. Coues, near Fort Whipple, Arizona, in 1865, and described by him in 1866.

Western Warbling Vireo, or Greenlet. Swainson's Warbling Greenlet. (*Vireo gilous*, var. *Swainsoni.*)

Fig. 4.

This species is a western variety of our common little Warbling Vireo, page 72 of this work. It is met with from the Rocky Mountains to the Pacific coast. Like its eastern relative, its song, which is cheerful and varied, is heard throughout the day until late in autumn. They also build their nests in the shade-trees in the cities.

Plumbeous Vireo. Lead-colored Vireo, or Greenlet. (*Vireo solitarias*, var. *plumbeus.*)

Fig. 5.

This is the western variety of the species known as the Solitary Vireo, see page 71. It was first described by Dr. Coues, who met

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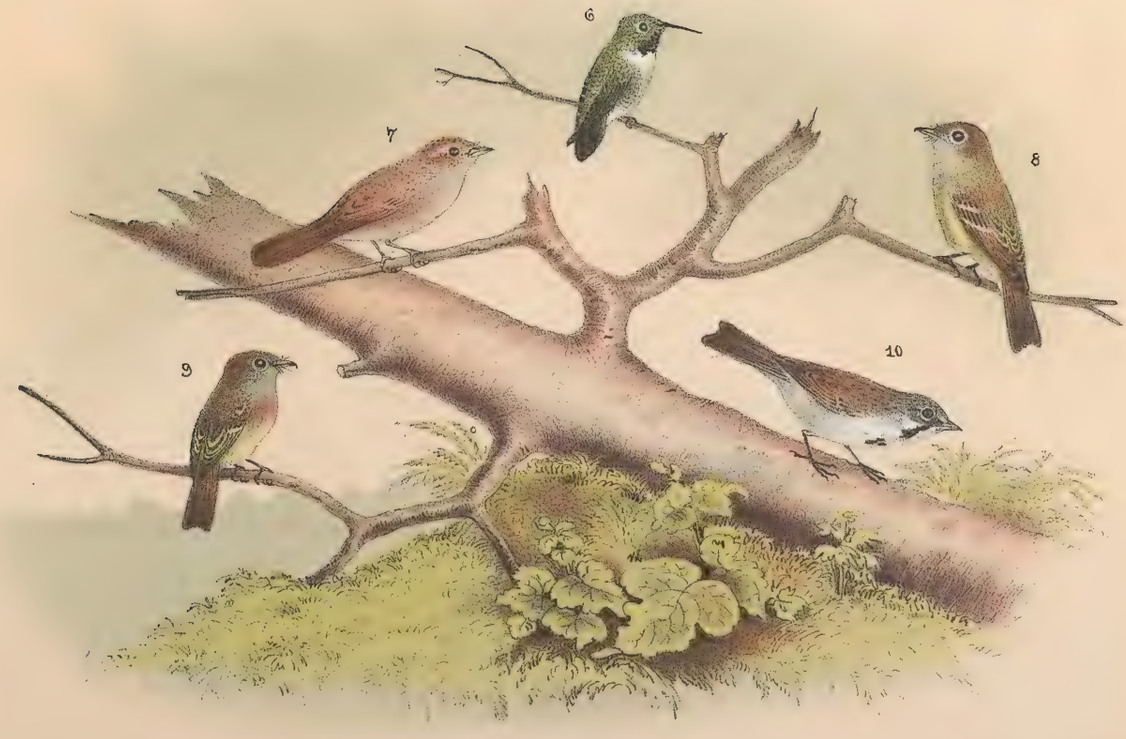
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it at Fort Whipple, in Arizona. Its habits are similar to its eastern relative.

Broad-tailed Hummingbird. (*Selasphorus platycercus.*)

Fig. 6.

Mr. Allen writes: "The Broad-tailed Hummer was common from Cheyenne southward along the base of the mountains to Colorado City, and throughout the mountains was everywhere abundant, even to above the timber-line. Its flight is exceedingly swift, and characterized by a sharp, whistling sound; but in all other respects it might be readily mistaken for the common Ruby-throat of the East. Its nest was not discovered, but hardly a day passed without a considerable number of the birds being observed, often several individuals being in sight at once. The great abundance of flowers throughout the mountain valleys, and which here and there also nearly cover the ground, even far above the limit of trees on the Snowy Range, renders this mountain region highly favorable to the existence of this interesting species, and offers a ready explanation of its abundant occurrence here."

Mr. Holden, who noticed this species in the Black Hills, says: "These little birds were quite common. On one occasion, while skinning a Hawk, I threw a piece of flesh into a small dead tree near me. In an instant three of the birds were poised before the meat, mistaking it, no doubt, for some gaudy flower. But one nest was found. It contained two young ones about a week old. I was struck by the wisdom displayed by the birds in placing their nest. A small tree had fallen over the brook, which was here eight feet wide. The nest was placed on one of the under branches in such a way that the trunk of the tree would effectually keep out the rain. The nest was lined with a species of cotton obtained in the vicinity."

Rufous-crowned Finch, or Sparrow. Red-capped Finch. Boucard's Finch. (*Peucæa ruficeps.*)

Fig. 7.

The coast of California and south to Mexico is the place of residence of this species. It was first obtained by Dr. Heerman, in California. He states that in the fall of 1851, he shot, on the Cosumnes river, a single specimen of this bird from among a large flock of Sparrows of various kinds. In the spring of the following year, among the mountains, near the Calaveras river, he found it quite abundant. It was then flying in pairs, engaged in picking grass-seed from the ground, and, when started, it never extended its flight beyond a few yards. Its notes, in their character, reminded him of the ditty of our common little Chipping Sparrow (*Spizella socialis*). He obtained several specimens. Its flight seemed feeble, and when raised from the ground, from which it would not start until almost trodden on, it would fly but a short distance, and almost immediately drop again into the grass.

Hammond's Flycatcher. (*Empidonax hammondii.*)

Fig. 8.

This species is met with in the western province of the United States, south to Mexico. It was first discovered by Mr. Xantus, in California, in 1858.

Dr. Cooper says, the first of this species arrives at Santa Cruz, March 13, and they were numerous during the summer, disappearing in September. They kept in low trees, and uttered a few faint notes. April 27, he found the first nest. It was built on the horizontal branch of a negundo tree, about eighteen feet from the ground. He found four others afterward, from four to ten feet high, either on horizontal branches or on forks of small trees.

Wright's Flycatcher. Grayish Flycatcher. (*Empidonax obscurus.*)

Fig. 9.

About the first of April this species arrives from Mexico, and remains until October. It is met with from the Rocky Mountains to the Pacific, north to Colorado, south through Mexico. According to Mr. Allen:

"The Gray Flycatcher was the commonest and almost the only species of *Empidonax* met with in the mountains of Colorado. It was generally observed in rather wet, swampy localities, dense willow thickets seeming to form its favorite resorts. It is very retiring in its habits, keeping almost constantly concealed in thick copses, where it silently hunts its insect prey, and is hence a difficult species to collect. Though it may be approached within a few yards, it eludes capture by keeping in the middle of the close willow clumps, exposing itself to view only when obliged to fly across an open space, taking its departure from the side furthest from the observer, and flying low and hurriedly to the nearest point of concealment. The several nests found contained young, and were always placed some distance within the thick copse the birds had chosen for their home. The nests were usually built in the forks of small branches, and in thickness and general appearance greatly resembled the ordinary nests of the summer Yellow-bird (*Dendræca æstiva*).

Bell's Finch, or Sparrow. (*Poospiza belli.*)

Fig. 10.

The extensive thickets, called chaparral, says Dr. Cooper, which cover barren, dry tracts for miles, in all the southern half of California, are the favorite resorts of this little bird. There they pick up a living from small seeds, and probably insects, being apparently quite indifferent as to water, or depending on that dropping from the foliage after dews and fogs. They may be seen running rapidly, or rather hopping along the ground, with tail carried perfectly erect, and at the least alarm seeking the friendly thicket. They reside all the year in the same localities, and are numerous on the island of San Nicolas, eighty miles from the mainland, though I saw none on the other islands, except one on Santa Barbara.

In spring the males sing a low, monotonous ditty from the top of a favorite shrub, answering each other from long distances. Their nest, built about three feet from the ground, is composed of grasses and slender weeds, lined with hair, etc. The eggs, about four, are pale greenish, with reddish-brown dots thickly sprinkled over. This species seems to be restricted to California, and valley of Gila and Colorado, to Fort Horn.

PLATE CI.

Texas Orchard Oriole. (*Icterus spurius*, var. *affinis.*)

Fig. 1.

This beautiful species is a small southern variety of our common Orchard Oriole so often met with in parks, orchards, and near the outskirts of woods. See page 13.

Texan Woodpecker. Arizona Woodpecker. Ladder-backed Woodpecker. Texan Sapsucker. (*Picus scalaris.*)

Fig. 2.

This southwestern species is met with from the Rocky Mountains and its slopes, west to San Bernadino Mountains of California. Dr. Cooper says they are abundant in the Colorado valley, and sometimes seen in the bushes covering the neighboring mountains.

Dr. Woodhouse says, during his stay in San Antonio, Texas, and its vicinity, he became quite familiar with it. It was to be seen at all times, flying from tree to tree, and lighting on the trunk of the mesquites (*algarobia*), closely searching for its insect-food. In its habits and notes, he states, it much resembles the common Hairy Woodpecker. See page 18.

Buff-breasted Flycatcher, or Least Flycatcher. (*Mitrephorus fulvifrons*, var. *pallesceus.*)

Fig. 3.

This species, which is comparatively new to our fauna, was taken by Dr. Coues at Fort Whipple, at which place it is a rare summer visitor.

Gray-tufted Titmouse. California Titmouse. Plain, or Plain-crested Titmouse. (*Lophophanes inornatus.*)

Fig. 4.

This Pacific coast species was first described by Dr. Gamble in his Birds of California. Dr. Woodhouse met with it in the San Francisco mountains, near the little Colorado river, New Mexico, at which place he found it very abundant. Dr. Gamble first noticed this species near Monterey, where he found it very common, frequenting tall bushes in small flocks, searching branches of low trees, uttering weak and slender cries, resembling tsee-day-day.

According to Dr. Cooper, they seem to prefer the evergreen oak groves toward the middle of the State, but are not found in the higher Sierra Nevada. They are residents throughout the year in the evergreen oaks near San Francisco. They are seen in small parties, scattered about the trees, and calling to each other with a variety of sweet and loud notes, some of which are said to equal those of our best singers. It also has certain powers of imitation like the eastern crested species, and the same cry of peto-peto.

House Finch, or Linnet. Burion. Crimson-fronted Finch. Adobe Finch. (*Carpodacus frontalis.*)

Fig. 5.

This is a very abundant species in the towns and gardens of New Mexico, Arizona, and California, where, according to Dr. Coues, it is as familiar as the European Sparrow has become in many of our large eastern cities. Dr. Woodhouse says, that his attention was first called to this interesting little songster while at Santa Fe. It was there known to the American residents as the "Adobe Finch." By the Mexicans they were called *Buriones*. He found them exceedingly tame, building about the dwellings, churches, and other buildings, in every nook and corner, and even entering the houses to pick up crumbs. They are never disturbed by the inhabitants. He adds, that at the first dawn of the morning they commence a very sweet and clear warble, which he was quite unable to do justice to by any verbal description.

Hooded Oriole. (*Icterus cucullatus.*)

Fig. 6.

This species extends its migrations from Mexico into Texas, at the Rio Grande, and into Southern California and Arizona. On the Rio Grande, where it rears its young, it was found quite common by Captain McCown. When met with in the woods, and far away from the abodes of men, it seemed shy and disposed to conceal itself. Yet a pair of these birds were his constant visitors, morning and evening. They came to the vicinity of his quarters, an unfinished building at Ringgold Barracks, and at last became so tame and familiar that they would pass from some ebony trees, that stood near by, to the porch, clinging to the shingles and rafters, frequently in an inverted position, prying into the holes and crevices, apparently in search of spiders and such insects as could be found there. From this occupation they would occasionally desist to watch his movements. He never could induce them to partake of the food he offered them. Lieutenant Couch found their nests generally on or under the tops of the palm known as the Spanish bayonet.

Black-chinned Sparrow. (*Spizella atrigularis.*)

Fig. 7.

But little is known of this Mexican species, that is only occasionally found within the limits and along the borders of the United States. It was met with by Dr. Coues in the neighborhood of Fort Whipple, Arizona. It arrives there in April, and departs in small flocks in October. He says that in the spring it has a very sweet and melodious song, far surpassing in power and melody the notes of any other of this genus he has ever seen.

Calliope Hummingbird. (*Stellula calliope.*)

Fig. 8.

This interesting Hummingbird is comparatively new to our North American fauna. It was first discovered by Signor Floresi. Mr. J. K. Lord, one of the British Commissioners on the Northwest Boundary Survey, was the first who brought it to the attention of our ornithologists. It is met with in the mountains of Washington, Oregon, California, to Northern Mexico. Mr. Lord says, around the blossoms of the brilliant pink *Ribes*, or flowering currant, he found congregated quite a number of Hummingbirds. The bushes seemed to him to literally gleam with their flashing colors, among them the present species, one of the smallest of Hummingbirds, and in life conspicuous for a frill of minute pinnated feathers, encircling the throat, of a delicate magenta tint, which can be raised or depressed at will. He afterward ascertained that they prefer rocky hillsides at great altitudes, where only pine trees, rock plants, and an Alpine flora are found. He frequently shot these birds above the line of perpetual snow. Their favorite resting-place was on the extreme point of a dead pine tree, where, if undisturbed, they would sit for hours. The site chosen for a nest was usually the branch of a young pine, where it was artfully concealed amidst the fronds at the very end, and rocked like a cradle by every passing breeze.

Mountain Song Sparrow. (*Melospiza melodia*, var. *fallax.*)

Fig. 9.

Dr. Coues found this species a common and permanent resident in Arizona, and he pronounces its habits, manners, and voice pre-

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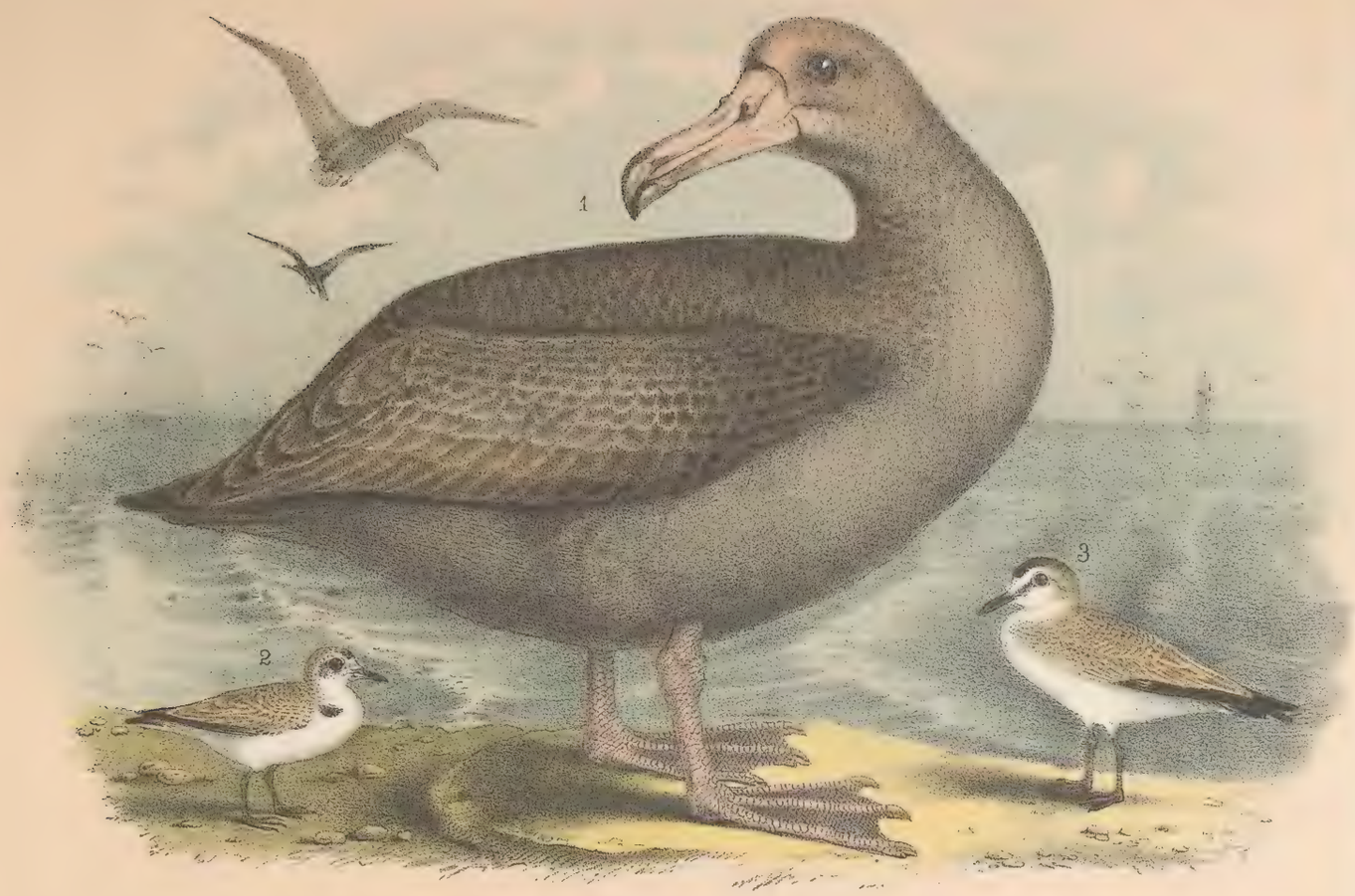
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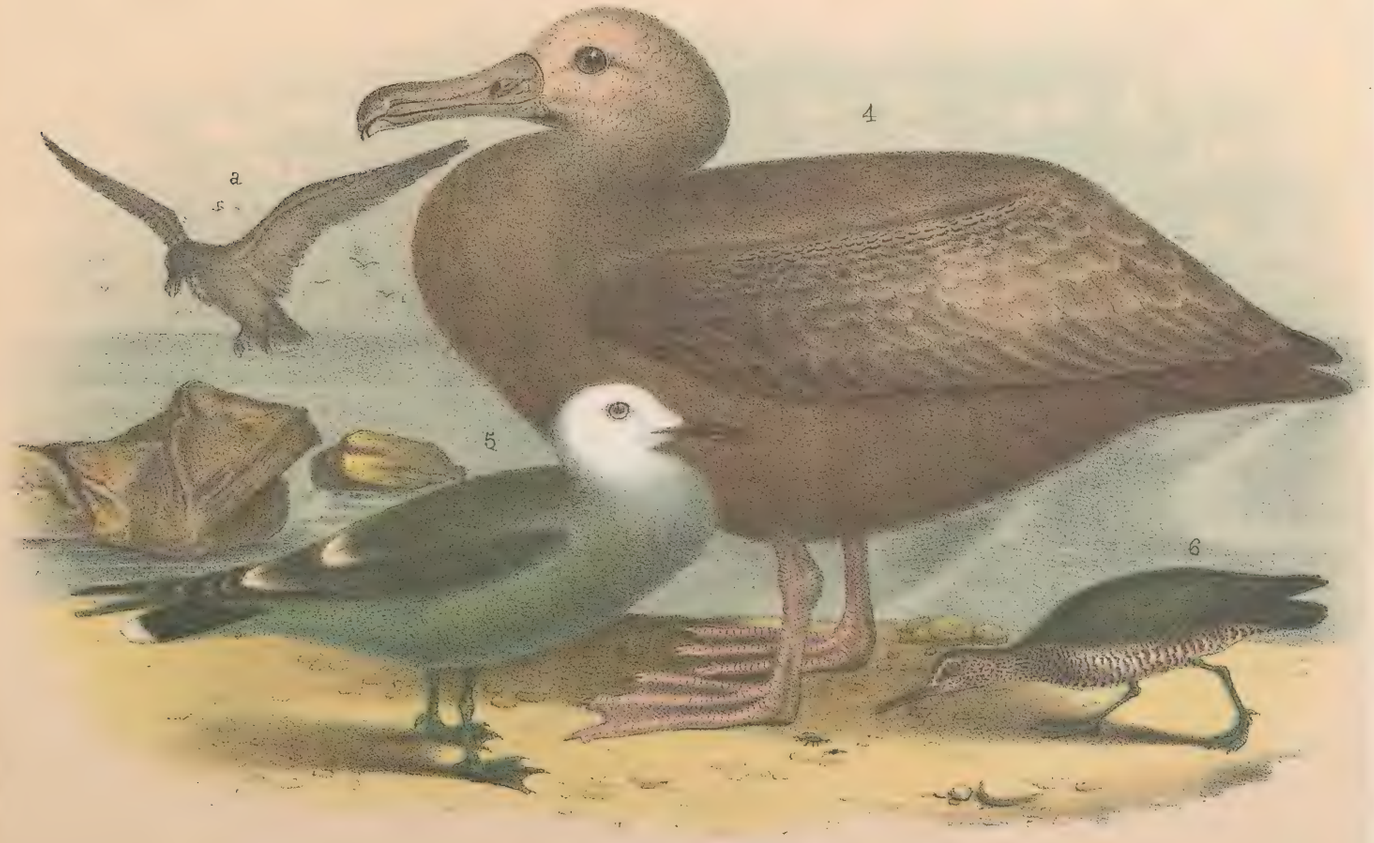
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cisely like those of the Song Sparrow (*M. Melodia*). See page 4. This species, he states, occurs throughout New Mexico, Arizona, and a part of Southern California, and is particularly abundant in the valley of Colorado.

Western Chipping Sparrow. (*Spizella socialis*, var. *arizonæ*.

Fig. 10.

This species is met with in the western parts of the United States, from the Rocky Mountains to the Pacific; south in winter into Middle and Western Mexico. Its habits are similar to its eastern relative, mentioned on page 68.

PLATE CII.

Short-tailed Albatross. (*Diomedea brachyura.*)

Fig. 1.

This is a very abundant species, that is met with off the Pacific coast. Its habits are similar to the Albatross, represented on Plate XCIX., and described on page 146.

Mountain Plover. (*Ægialitis asiaticus*, var. *montanus.*)

Fig. 2.

This bird, so far as known, inhabits the western countries of North America, and is supposed to extend its migrations to South America. According to Dr. Coues, it is common on dry plains, and even in deserts; independent of water; feeds on insects, especially grasshoppers. He found it in New Mexico in June, and abundantly in California in November.

Dr. Coues further says regarding this species:

"In the desert region of New Mexico, between the Rio Grande and the base of the mountains to the westward, I found these Plovers abundant, late in June, together with the Long-billed Curlews, and presume that they breed there, although I found no nests. The old birds that I shot were in poor condition and worn plumage. A few were seen in Arizona, at various seasons, but they did not again occur to me in abundance until I reached Southern California, in November of the following year. In the vicinity of Los Angeles I found them in large flocks on the dry plain which stretches down to the ocean. They were not difficult of approach, and I had no difficulty in securing as many as I desired. On being disturbed by too near approach, they lower the head, run rapidly a few steps in a light, easy way, and then stop abruptly, drawing themselves up to their full height and looking around with timid yet unsuspicious glances. Their notes are rather peculiar, as compared with those of our other Plovers, and vary a good deal, according to circumstances. When the birds are feeding at their leisure, and in no way apprehensive of danger, they utter a low and rather pleasing whistle, though in a somewhat drawling or rather lisping tone; but the note changes to a louder and higher one, sometimes sounding harshly. When forced to fly by persistent annoyance, they rise rapidly with quick wing-beats, and then proceed with alternate sailing and flapping, during the former action holding the wings decurved. They generally fly low over the ground, and soon realight, taking a few mincing steps as they touch the ground; they then either squat low, in hopes of hiding, or stand on tip-toe, as it were, for a better view of what alarmed them.

"The Mountain Plover's food consists principally, if not wholly, of insects. I examined the stomachs of a great many with reference to this matter, finding in them nothing whatever but insects, excepting, as usual, a little sand or gravel. Grasshoppers, in their season, seem to be the bird's main reliance, though numerous other insects, as crickets and beetles, are also eaten; and I suppose that worms and small land-molluscs would not come amiss. In the fall, when food is plenty, the birds become very fat, tender, and juicy, affording excellent eating."

Snowy Plover. (*Ægialitis cantianus.*)

Fig. 3.

This is a California coast species, where it is found quite common during the winter season, occupying the sandy or gravelly shores of rivers.

Sooty Albatross. (*Diomedea fuliginosa.*)

Fig. 4.

This species is met with on the Pacific coast. Its habits are about the same as the other Albatross represented on this plate.

White-headed Gull. (*Larus heermani.*)

Fig. 5.

This bird is met with on the Pacific coast, thence southward. It is a common species, and most generally found in deep water some distance from shore.

Wandering Tattler. (*Heteroscelus incanus.*)

Fig. 6.

This species has a very general distribution on the coast and islands of the Pacific ocean.

PLATE CIII.

Red-vented Thrasher; Crissal Thrush; Henry's Thrush. (*Harporhynchus crissalis.*)

Fig. 1.

The valley of the Rio Grande, Colorado, and California is the habitat of this rare species. Very little is known in regard to the habits of this little bird. A specimen was first obtained by Dr. J. C. Henry, near Mimbres, who published a description of it in May, 1858.

Bendire's Thrush. (*Harporhynchus Bendirei.*)

Fig. 2.

This is a new species lately found by St. Bendire. It is a resident of the valley of the Rio Grande, Colorado, and Arizona. Its nests are usually built on trees instead of bushes, and at times as high as thirty feet from the ground.

Mocking Bird. (*Mimus polyglottus.*)

Fig. 3.

Among the great things peculiar to the New World, stands without a rival amongst the feathered songsters, the Mocking Bird of America. This very extraordinary species, which is so rich and varied in its vocal powers, inhabits a very considerable extent of both North and South America, having been traced from the states of New England to Brazil. They are, however, much more numerous in those states south, than those north of the river Delaware; being generally migratory in the latter, and resident (at least many of them) in the former. A warm climate, and low country not far from the sea, seems most congenial to their nature; the species are accordingly found to be less numerous to the west than east of the great range of Alleghany, in the same parallels of latitude. In these regions the berries of the red cedar, myrtle, holly, many species of smilax, together with gum-berries, gall-berries, and a profuse variety of others, abound, and furnish them with a perpetual feast. Winged insects also, of which they are very fond, and very expert in catching, are then plentiful even in the winter season.

Though the plumage of the Mocking Bird is none of the homeliest, it has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice. But his figure is well proportioned and even handsome. The ease, elegance, and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons, from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities may be added that of a voice full, strong, and musical, and capable of almost every modulation, from the clear, mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accent he faithfully follows his originals; in force and sweetness of expression he greatly improves upon them. In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of the morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to his music alone, to which that of all the others seems a mere accompaniment. Neither is his strain altogether imitative. His own native notes are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or, at the most, five or six syllables, generally interspersed with imitations, and all of them uttered with great emphasis and rapidity, and continued with undiminished ardor for half an hour or an hour at a time. His expanded wings and tail, glistening with white, and the buoyant gayety of his actions, arresting the eye as his song most irresistibly does the ear, he sweeps round with enthusiastic ecstacy, and mounts and descends as his song swells or dies away. While thus exerting himself, a bystander, destitute of sight, would suppose that the whole feathered tribes had assembled together on a trial of skill, each striving to produce his utmost effect.

He often deceives the sportsman, and sends him in search of birds that are not, perhaps, within miles of him, but whose note he exactly imitates. Even birds themselves are frequently imposed upon by this admirable mimic, and are decoyed by the fancied calls of their mates, or dive with precipitation into the depth of thickets at the scream of what they suppose to be the Sparrow-Hawk.

The Mocking Bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings and bristled feathers, chuckling to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully; he runs over the quaverings of the Canary, and the clear whistlings of the Virginia Nightingale, or Cardinal Red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent, while he seems to triumph in their defeat by redoubling his exertions. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of Cocks; and the warblings of the Blue-bird, which he exquisitely manages, are mingled with the screaming of Swallows, or the cackling of Hens. Amid the simple melody of the Robin, one is suddenly surprised by the shrill reiterations of the Whip-Poor-Will, while the notes of the Kildeer, Blue Jay, Martin, Baltimore Oriole, and many others succeed, with such inspiring reality, that the auditors look round for the originals, and with astonishment discover that the sole performer in this singular concert is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all ecstacy of enthusiasm, seeming not only to sing but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the stillness of the night, as soon as the moon rises he begins his delightful solo, making the whole neighborhood resound with his inimitable medley. The Mocking Bird is frequently taken in trap-cages, and, by proper management, may be made sufficiently tame to sing.

The precise time at which the Mocking Bird begins to build his nest varies according to the latitude in which he resides, from the beginning of April to the middle of May. There are particular situations to which he gives the preference. A solitary thorn-bush, an almost impenetrable thicket, an orange-tree, cedar, or holly-bush, are favorite spots, and frequently selected. It is no great objection to the bird, that a farm or mansion-house happens to be near. Always ready to defend, but never over-anxious to conceal, his nest, he very often builds within a small distance of the house, and not unfrequently in a pear or apple-tree, rarely at a greater height than six or seven feet from the ground. The nest varies a little, according to the conveniency of collecting suitable materials. Generally, it is composed of—first, a quantity of dry twigs and sticks, then withered tops of weeds of the preceding year, intermixed with fine straw, hay, pieces of wool, and tow; and, lastly, a thick layer of fine, fibrous roots, of a light brown color lines the whole. The female sits fourteen days, and generally produces two broods in the season, unless robbed of her eggs, in which case she will even build and lay the third time. She is, however, very jealous of her nest, and very apt to forsake it, if much disturbed. During the period of incubation, neither cat nor dog, animal nor man, can approach the nest without being attacked. The cats, in particular, are persecuted, whenever they make their appearance, till obliged to retreat. But his whole vengeance is more particularly directed against that mortal enemy of his eggs and young, the black snake. Whenever the insidious approaches of this reptile are discovered, the male darts upon it with the rapidity of an arrow, dexterously eluding its bite, and striking it violently and incessantly about the head, where it is very vulnerable. The snake soon becomes sensible of its danger, and seeks to escape; but the intrepid defender of his young redoubles his exertions, and, unless his antagonist be of great magnitude, often succeeds in destroying him. All his pretended powers of fascination avail it nothing against the vengeance of this noble bird. As the snake's strength begins to flag, the Mocking Bird seizes and lifts it up partly from the ground, beating it with its wings, and when the business is completed, he returns to the nest of his young, mounts the summit of the bush, and pours forth a torrent of song in token of victory.

The Mocking Bird is nine and a half inches long, and thirteen

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across, when its wings are spread. Some individuals are, however, larger, and some smaller, those of the first hatch being uniformly the largest. The upper parts of the head, neck, and back are a dark brownish ash, and when new-moulted, a fine light gray; the wings and tail are nearly black, the first and second rows of coverts tipped with white; the primaries, in some males, are wholly white; in others, tinged with brown. The first three primaries are white from their roots as far as their coverts; the white on the next six extends from an inch to one and three-fourths further down, descending equally on each side the feather; the tail is cuneiform; the two exterior feathers wholly white; the rest, except the middle ones, tipped with white; the chin is white; sides of the neck, breast, belly, and vent a brownish white, much purer in wild birds than in those that have been domesticated; iris of the eye, yellowish cream colored, inclining to golden; bill black; the base of the lower mandible whitish; legs and feet black and strong. The female much resembles the male, and is only distinguishable by the white of her wings being less pure and broad, and her black feathers having a more rusty hue.

Palmer's Thrasher. (*Harporhynchus curvirostris.*)

Fig. 4.

This is a species met with in Arizona, by Dr. Edward Palmer, who says that it is very shy, and passes much of its time upon the ground, where it was seen running beneath the bushes.

California Mocking Bird; Sickle-billed Thrush; California Thrasher. (*Harporhynchus redivivus.*)

Fig. 5.

This plainly-colored species is restricted in its distribution to the coast region of California. Dr. Gambel first met with it near Monterey. It was taken whilst the bird was gathering insects on the ground. It is difficult to approach. When alarmed, it takes to the thick bushes, running some distance, and becoming afterward unapproachable. He speaks of its song as a flood of melody, equaled only by the song of the Mocking Bird.

Cinerous Thrush; Ashy Thrush; Cape St. Lucas Thrasher. (*Hyporhynchus cinereus.*)

Fig. 6.

This is a new species discovered by Mr. Xantus, in 1859, at Cape St. Lucas. So far as known, it is confined to the peninsula of Lower California. Mr. Xantus found it quite numerous at the Cape St. Lucas, in a region which was singularly unpropitious—a sandy shore, extending about a quarter of a mile inland, whence a cactus desert stretched about six miles up to a high range of mountains.

Bewick's Wren: Western Mocking Wren. (*Thryothorus Bewickii*, var. *spilurus.*)

Fig. 7.

This variety is an inhabitant of the Western coast. Dr. Cooper says they abound throughout the wooded parts of California and northward, frequenting the densest forests as well as the open groves. During the winter, they were found in the vicinity of Fort Morgan, but left in April. They are known as Mocking Wrens, though he thinks they do not really imitate other birds, but rather have a great variety of their own notes, some of which resemble those of other birds, and are well calculated to deceive one unaccustomed to them. The nest was built in a low bush, only three feet from the ground. It was quite open above, formed of twigs, grass, etc., and contained five eggs, which were white, with brown specks near the larger end.

Allied Creeper Wren; Cape Cactus Wren. (*Campylorhynchus affinis.*)

Fig. 8.

This species was first discovered by Mr. Xantus in the southern extremity of Lower California, where it is a very common bird. So far as known it is only observed at Cape St. Lucas, Lower California.

Pygmy Nuthatch; California Nuthatch. (*Sitta pygmæa.*)

Fig. 9.

This little species is found on the Pacific Coast, and on the western slope of the Rocky Mountains, from Washington Territory to Southern California. Dr. Kennerly found them quite abundant in the Sierra Madre and San Francisco Mountains, even as high up as the snow-line, seeking their insect food among the tops of the lofty pines. Dr. Gambel mentions their almost extraordinary abundance, in the winter months, in Upper California. Around Monterey, at times, the trees appeared almost alive with them, as they ran up and down and around the branches and trunks, uttering their monotonous and querulous cries. Their note he describes as a repeated whistling *wit-wit*. When one utters this cry, the rest join in. Mr. Ridgeway found it exceedingly hard to discover this bird among the branches, or even when flying, owing to the swiftness and irregularity of its flight. When the female of a pair had been killed, the male bird was extremely loud in his lamentations. Diminutive as this bird is, it is also the noisiest of all the feathered inhabitants of the pines, though it is less active in the pursuit of insects than the larger species.

Slender-billed, or Western Nuthatch. (*Sitta carolinensis*, var. *aculeata.*)

Fig. 10.

The Pacific Coast, and east toward the Rocky Mountains, is the habitat of this western variety of the eastern species, the White-breasted Black-capped Nuthatch (*Sitta carolinensis*), represented on plate 2, figs. 5 and 6, page 2. The habits of these birds are similar; their note is a single harsh call, uttered occasionally, and responded to by their comrades.

Black-whiskered Vireo; Florida Greenlet; Whip-Tom-Kelly. (*Vireo altiloquus*, var. *barbatulus.*)

Fig. 11.

This species is met with in Cuba, the Bahamas, and casually at Charlotte Harbor, Florida. It is very similar in habits and appearance to the common Red-eyed Vireo (*Vireo olivaceus*), plate 49, fig. 8, page 71. Dr. Hurman describes its song as clear and musical, and very distinctly uttered. It was constantly on the search for insects, and appeared even more active than any of the northern species, darting among the foliage, peering into crevices and cobwebs, suspended from branches with its back downward, and occasionally chasing a flying insect in the manner of a true Flycatcher. These movements were usually accompanied by a song.

Oregon, or Gray Song-Sparrow. (*Melospiza melodia*, var. *guttata.*)

Fig. 12.

This variety is an inhabitant of the Pacific Coast, United States, and British Columbia. Dr. Cooper characterizes this species as the most northern and mountain-frequenting representative of the Song Sparrows, being a resident of the higher Sierra Nevada, and on the borders of the evergreen forests toward the Columbia, and thence northward, where it is the only species of this genus, and where it is common down to the level of the sea. Their habits and song are similar to the common Song Sparrow of the East.

Western, or Long-tailed Chat. (*Icteria virens*, var. *longicauda.*)

Fig. 13.

This variety of the common Yellow-breasted Chat, Plate LXIV, fig. 9, page 110, has an exclusively western distribution, and has been found from Mexico and Cape St. Lucas to Oregon, on the Pacific Coast, and as far east as the Upper Missouri. The habits and notes of these birds are alike.

Western Titmouse, or Chickadee. (*Parus atricapillus*, var. *occidentalis.*)

Fig. 14.

The Pacific Coast variety of the common Titmouse, or Black-capped Chicadee, Plate XXXII, fig. 4, page 42. This little bird is mostly found frequenting low thickets and trees in Oregon and Washington Territory. During winter it is found common near the Columbia river in the northern part of California. Its food consists of seeds and insects, it is also fond of fresh meat, fat, and crumbs of bread.

Black-crested, Black-tufted, or Texas Titmouse. (*Lophophanes atricristatus.*)

Fig. 15.

The valley of the Rio Grande, thence south into San Antonio, Texas, is the residence of this species. It was first met with by Mr. Audubon, in Texas. In its habits and general appearance it is similar to the common Crested or Tufted Titmouse (*Lophophanes bicolor*), Plate XXXIII, fig. 2, page 30.

Black-headed or Black-capped Vireo. (*Vireo atricapillus.*)

Fig. 16.

This very rare species has Southwestern Texas, and Mazatlan, Mexico, as its place of habitation. Very little is known regarding its habits. It was first discovered, by Dr. Woodhouse, May 26, 1851, in Western Texas, on the Rio San Pedro, within ten miles of its source. He found it among some cedars, and was attracted by its very singular notes. It was in continued motion, like a Wood Warbler, and was by him first supposed to be one of those birds.

Hutton's Vireo. (*Vireo huttoni.*)

Fig. 17.

This species was first described by Mr. Cassin, in 1851, from a specimen obtained in Monterey, California; in which State, and in the Valley of Gila, and in the northern and eastern portions of Mexico, it has been found. Dr. Cooper states that it resembles the Ruby-crowned Wren very closely in appearance and habits. Its song consists of a few short and quaint notes.

White-bellied Wren. (*Thryothorus bewickii*, var. *leucogaster.*)

Fig. 18.

This bird is the Southwestern United States and Mexican variety of our eastern species known as Bewick's Wren, Plate LXXI, fig. 6, page 102.

Long-billed Thrush; Texas Thrasher. (*Harporhynchus rufus*, var. *longirostris.*)

Fig. 19.

A variety that represents the Brown Thrush (*Harporhynchus rufus*, Plate LXXII, fig. 8, page 109, in Eastern Mexico, north to the Rio Grande, Texas.

Leconte's Thrush, or Thrasher. (*Harporhynchus redivivus*, var. *lecontei.*)

Fig. 20.

This is a comparatively new species, it was met by Dr. Leconte, near Fort Yuma. Dr. Cooper found it common about the Mojave river, near which place Dr. Coues obtained a specimen in 1865. He found it on a dry plain covered with mosquits and cactus. It was very shy and restless, fluttering hurriedly from one cactus to another, until he at last shot it when it seemed to fancy itself hidden among the thick ponds of a large yueca. Its large, stout feet admirably adapt it for its particularly terrestrial life, and it apparently spends much of its life upon the ground, where it runs rapidly and easily. Its flight he describes as swift but desultory, and accompanied by a constant flirting of the tail.

Alaska Wren. (*Anorthura troglodytes*, var. *alascensis.*)

Fig. 21.

Very little is known of this new variety. Mr. Dall obtained it on Amaknak Island. He found it abundant all the year round on St.George's Island, and that it bred in May, building a nest of moss in the crevices of the rocks, and, according to the Aleuts, lay six eggs.

Parkman's House Wren; Western Wood Wren. (*Troglodites ædon*, var. *parkmani.*)

Fig. 22.

This bird was first obtained by Mr. Townsend, on the Columbia River, and described by Audubon in 1839. It is met with on the plains from the Missouri to the Pacific. Its habits and characteristics are the same as the common Eastern House Wren. Plate LVI, fig. 7, page 83.

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PLATE CIV.

Gould's, or Samuel's Song Sparrow. (*Melospiza melodia*, var. *gouldii.*)

Fig. 1.

This variety is a resident of the coast region of California. Its chief distinctive character is its small size.

Heerman's, or California Song Sparrow. (*Melospiza melodia*, var. *heermani.*)

Fig. 2.

This bird is the counterpart of the common Eastern Song Sparrow. It has been found in California as far north as San Francisco, and to the south and southeast to San Diego, and the Mohan river. According to Dr. Cooper, it is found in every locality where there are thickets of low bushes and tall weeds, especially in the vicinity of water, and, whenever unmolested, it comes about the gardens and houses with all the familiarity of the common Song Sparrow.

Laconte's Sparrow, or Bunting. (*Coturniculus lecontei.*)

Fig. 3.

This rare species was procured by Audubon in his expedition to the Yellowstone. He speaks of its having very curious notes, which he describes as of a sharp, querulous nature, and a general habit o keeping only among the long, slender, green grasses that here and there grew up in patches along the margins of the creeks. So closely did it keep in the coverts to which it resorted, that it was very difficult to force it to rise on the wing, when only it could be procured.

Kodiak Song Sparrow. (*Melospiza melodia*, var. *insignis.*)

Fig. 4.

This variety is met with from Kodiak and Oonatashka, and represents the extreme extent of the variations of Song Sparrows.

Mexican Purple Finch. (*Carpodacus frontalis*, var. *hæmorrhouse.*)

Fig. 5.

This variety is a resident of the table lands of Mexico. Its habits and characteristics are similar to the common House Finch (*Carpodacus frontalis*), Plate CI, fig. 5, page 148.

Dusky Redpoll Finch. (*Ægiothus linaria*, var. *fuscesceus.*)

Fig. 6.

This variety, it is thought, is based upon the midsummer plumage of the Redpoll Linnet. Plate XLVIII, fig. 9, page 69.

Brewster's Linnet, or Finch. (*Linota flavirostris*, var. *berwsteri.*)

Fig. 7.

This bird was lately obtained by Mr. William Brewster, in Waltham, Massachusetts. Nothing was observed by him regarding its habits.

Ochrous-headed Bunting; Baird's Bunting, or Sparrow. (*Centronyx ochrocephalus.*)

Fig. 8.

This little species was, until lately, considered a very rare bird, some thirty years having passed since Audubon's party to the Yellowstone River—1843—obtained a single specimen. Dr. Coues, who, in company with Mr. Aiken, took the second specimen, says:

"Baird's Bunting is extremely abundant in Dakota, in some places outnumbering all other birds together. I did not see it immediately along the Red River, but at once encountered it beyond the low Pembina range of mountains, thirty or forty miles west of the river, as soon as I came upon the high prairie. This was the second week in July, when I shot some young birds just fledged, though the great majority were then breeding. In two days, July 14 and 15, I took thirty specimens, and more might have been procured; during the summer about seventy-five were preserved, showing all stages. Almost without exception my earlier specimens were males, which attracted attention as they sat singing on the low bushes of the prairie, the females lying concealed in the grass, incubating or attending to the young. The song is peculiar, consisting of two or three distinct syllables, in a mellow, tinkling tone, running into an indefinite trill; it may be suggested by *zip-zip-zip-zr-r-r-r.* In their general appearance and habits, the birds are so nearly the same as the Savanna Sparrows that it was two or three days before I learned to distinguish them at gunshot range. They do not go in flocks, yet there is a sort of colonization among them, for we may ride a mile or two over the prairie without seeing any, and then come upon numerous pairs breeding together. I think it probable that a second brood is usually reared each season, as I have shot equally young birds six weeks apart. After the duties of incubation, the plumage is renewed, it having become greatly worn and faded. When the young are all on the wing, they associate together with their parents, in loose straggling troops, mixing freely with the Chestnut-collared Buntings and the Sky-larks. Their numbers sensibly diminish in September, and they apparently move south during the month, as I saw none after the 1st of October. In September, in this latitude, there is a good deal of cold weather, and not unfrequently a heavy snow-fall, sending the more delicate birds away early. The birds feed upon various seeds, as usual, as well as upon insects, even sizable grasshoppers, which in this region seem to be eaten by almost every bird and animal."

Mr. Henshaw, of Wheeler's expedition of 1873, also discovered this species in Arizona, where he says he found them very numerous.

A nest discovered by Mr. Allen, on Big Muddy Creek, Dakota, was built on the ground, and consisted of grasses and weed-bark, circularly disposed, about four inches across outside. It contained five fresh eggs, which measured 0.80 by 0.65, of a dull white color, irregularly speckled with light reddish-brown.

Sea Shore, San Diego, or Beaked Sparrow. (*Passerculus rostratus.*)

Fig. 9.

The habitat of this quiet and unsuspicious bird is confined to the sea-coast of Southern California. Dr. Heerman first met with it, in 1851, in the neighborhood of San Diego, in company with other species. Whenever he met with this bird, he found it near low, sandy beaches, and the heavy sedge-grass which abounds on the shores, its food consisting of marine insects and seeds thrown up by the tide, the sedge-grass affording them easy and immediate concealment, when alarmed or pursued. Its note consists of a short, sharp chirp.

Western Yellow-winged Bunting, or Sparrow. (*Coturniculus passerinus*, var. *perpallidus.*)

Fig. 10.

This species is the Western variety of our common Yellow-winged Sparrow, represented on Plate XLVIII., fig. 3, and described on page 67. Its habitat is from the base of the Rocky Mountains to the Pacific.

Eastern Snow Bird. (*Junco hyemalis*, var. *aikeni.*)

Fig. 11.

This bird is a variety of our common Snow Bird, represented on Plate XXXVIII., figs. 5 and 6, and described on page 53. It is recognized by two white bands across tip of medium and greater coverts, and an additional white feather to the tail.

Gray, or Cinereous Snow Bird. (*Junco cinereus*, var. *caniceps.*)

Fig. 12.

This species was first discovered by Dr. Woodhouse, among the San Francisco Mountains, in Arizona. He says: "Its habits appeared to be very similar to those of the Western Snow Bird, as well as those of the common Snow Bird," referred to in the preceding notice.

Bay-winged Bunting; Grass, or Field Sparrow; Grass Finch; Vesper Bird. (*Pooecetes gramineus*, var. *confinis.*)

Fig. 13.

This species is the Western variety of our common bird, known by the above names, and represented on Plate XLVIII., fig. 8, and described on page 84. Its habitat is South into Mexico, from the Middle Provinces of the United States.

St. Lucas Sparrow. (*Passerculus rostratus*, var. *guttatus.*)

Fig. 14.

So far as known, there has been but one specimen of this bird taken. It was met with by Mr. Xantus, at San José, in Lower California, in December, 1859, in company with a flock of Sea Shore, or San Diego Sparrows (*Passerculus rostratus*), represented on this plate, fig. 9, which is also a rare species. And as this bird is a variety, it is supposed that their habits are alike.

Aonalaska, or Northwestern Savanna Sparrow. (*Passerculus savanna*, var. *sandwichensis.*)

Fig. 15.

A Northwestern Coast variety of our common Savanna Sparrow, represented on Plate XLIX., fig. 1, and described on page 69. Its migrations extend from the Columbia River to Russian America.

Siberian Finch. (*Leucosticte arctoa.*)

Fig. 16.

According to Dr. Cooper, this is a very stupid bird. When pursued, it thrusts its head into a tuft of grass, and, imagining itself concealed, can even be taken with the hand. Its habitat is the Kurile, the Aleutian Islands, and Siberia.

Western Wood Pewee; Short-legged Pewee. (*Contopus virens*, var. *richardsoni.*)

Fig. 17.

Mr. Richardson first obtained this species, in the Arctic regions, in the neighborhood of the Cumberland House, frequenting the shady weeds, near the banks of rivers and lakes. Its range is said to extend as far south as Guatemala, and even Panama, and northward as far as the 60th parallel of latitude, and from the great plains to the Pacific. This bird is a Western variety of the common Wood Pewee (*Contopus virens*), plate L., fig. 3, page 73.

Coues' Flycatcher; Mexican Olive-sided Flycatcher. (*Contopus pertinax.*)

Fig. 18.

Dr. Coues was the first to discover this species. He met with a young summer resident, at Fort Whipple, Arizona. No mention is made in regard to its habits.

Yellow-bellied Flycatcher. (*Empidonax flaviventris.*)

Fig. 19.

This species is met with in most all parts of North America, and breeds from the Middle States, where it arrives about the first of May. Northward it is considered a rare bird, and was first obtained in Carlisle, Penn. Mr. Maynard obtained it in Massachusetts, and, in his valuable work on Taxidermy, says: "May 31, 1869, I shot the first specimen I had ever seen living; the next day I took eight of both sexes in a few hours. Between this time and the 10th of June I took two or three more. I do not doubt that it has occurred in previous seasons, but, being unaccustomed to its low note—which is like the syllable *pea* very plaintively prolonged—and its retiring habits, I had not detected it before. The specimens were all taken in low, swampy thickets, with the exception of the first, which was shot on a tall oak. It keeps near the ground, is rather shy, and upon the appearance of an intruder, instantly ceases its song.

Acadian, or Small Green-crested Flycatcher. (*Empidonax acadicus.*)

Fig. 20.

This species is said to be almost entirely an inhabitant of Eastern North America. Wilson found it inhabiting only the deepest solitary parts of the woods, stationed among the lower branches, uttering, at short intervals, a sudden, sharp squeak, heard at considerable distance through the woods. As it flies, it utters a low, querulous note, which it changes, on alighting, to its usual sharp cry. He also says, it is a rare and very solitary bird, always haunting the most gloomy, moist, and unfrequented parts of the forest, feeding on flying insects, devouring wild bees and huckleberries in their season.

According to Mr. Jackson, the nest is generally placed on a drooping limb of a bush, or a dogwood tree, at the height of from six to ten feet from the ground. It is never saddled on a limb, like that of a Wood Pewee, neither is it pensile, like those of the Vireos, but is built in the fork of a small limb, and securely fastened thereto by a strip of bark. The nest itself is mostly made of fine strips of bark or weed—stalks woven together without much

care as to neatness or strength, and so very slight is the structure that you may often count the eggs in the nest from below.

Little, or Little Western Flycatcher. (*Empidonax traillii*, var. *pusillus.*)

Fig. 21.

From the high, central plains to the Pacific, thence southward into Mexico, is the habitat of this little Flycatcher. It is the western variety of Traill's Flycatcher (*Empidonax traillii*), represented on Plate L, fig. 4, and described on page 74, its notes and its manners being the same.

Cape Cardinal; Fiery Redbird. (*Cardinalis virginianus*, var. *igneus.*)

Fig. 22.

The habits and characteristics of this variety, which is met with at Cape St. Lucas, and in the Colorado Valley, are the same as those of the common Redbird, or Cardinal Grosbeak (*Cardinalis virginianus*), Plate XXVIII, figs. 3 and 4, page 31.

Texas Cardinal. (*Pyrrhuloxia sinuata.*)

Fig. 23.

This species was originally described as a Mexican bird by Prince Charles Lucien Bonaparte, published in the proceedings of the Zoological Society of London. Since then, it has been discovered to be an inhabitant of the southern central portions of our country; its range extending northerly to within the limits of the United States. On the Rio Grande, it is said to be a resident most of the year. Its habits and manners are similar to our common Cardinal Grosbeak, or Redbird (*Cardinalis virginianus*), represented on Plate XXVIII, figs. 3 and 4, page 31.

Western Nonpareil, or Varied Bunting. (*Cyanospiza versicolor.*)

Fig. 24.

This beautiful bird is confined almost exclusively to Mexico. In which country it was met with, in the State of New Leon, by Lieutenant Couch. It is said to be common at Cape St. Lucas, where it breeds, and at which place Mr. Xantus found a nest and three eggs, on a myrtle hanging down from very high, perpendicular bluffs, off the Tragoles.

Brewer's Sparrow. (*Spizella pallida*, var. *breweri.*)

Fig. 25.

Mexico, and the southwestern border of the United States, is the habitat of this little Sparrow. According to Mr. Ridgeway, it is found abundant in all fertile portions, almost exclusively an inhabitant of open situations, such as fields or bushy plains, among the artemesia especially where it is most numerous, frequenting alike the valleys and the mountains. Its song, he says, for sprightliness and vivacity, is not excelled by any other of the North American *Fringillidae*, being inferior only to that of the *Chondestes gummaca* in power and richness, and even excelling it in variety and compass. Its song, while possessing all the plaintiveness of tone so characteristic of the eastern Field Sparrow, unites to this quality a vivacity and variety fully equaling that of the finest Canary. The nest, which he found early in June, was built in sage-bushes about three feet from the ground.

Western Slate-colored Sparrow. *Passerella townsendi*, var. *schistacea.*)

Fig. 26.

The Rocky Mountain regions of the United States is the habitat of this variety or geographical race of Townsend's Sparrow (*Passerella townsendii*), Plate XCIV, fig. 10, page 141.

Ridgeway's Sparrow. (*Zonotrichia leucophrys*, var. *intermedia.*)

Fig. 27.

This variety was first met with by Mr. Ridgeway at the Summit Meadows, near the summit of Donner Lake Pass of the Sierra Nevada, at an altitude of about seven thousand feet, where he found it an abundant and characteristic bird. The males were in full song in all parts of the meadow, and were nesting in such numbers that on the evening of July 9, on halting for the night, in a hurried search, no less than twenty-seven of their eggs were obtained within about fifteen minutes. In every instance the nests were imbedded under a species of dwarf-willow, with which the ground was covered. The birds were extremely unsuspicious, the male often sitting on a bush within a few feet of the collector, and chanting merrily as the eggs were being blown. He adds that this species is only a winter visitant of the lower country, but is there universally distributed and always found in bushy localities.

Clay Colored Sparrow, or Bunting; Shattuck Bunting. (*Spizella pallida.*)

Fig. 28.

According to Audubon: "This handsome little species is found quite abundant throughout the country bordering on the Upper Missouri. It inhabits, with particular partiality, the valleys found here and there along the numerous ravines running from the interior. Its usual demeanor resembles much that of the Chipping Bunting (*Emberiza socialis*), of Wilson, and, like it, it spends much of its time in singing its monotonous ditties, while its mate is engaged in the pleasing task of incubation. When approached, it will dive and conceal itself either amid the low bushes around, or will seek a large cluster of wild roses, so abundant in that section of country, and the fragrance of which will reach the olfactory nerve of the traveler or gunner for many paces.

"The nest of the Shattuck Bunting is usually placed on a small horizontal branch, seven or eight feet from the ground; and I believe it is occasionally placed in the broken and hollow branches of trees. The eggs, four or five in number, are blue, spotted with reddish brown toward the large end, and placed in a nest so slightly formed of slender grasses circularly lined with horse or cattle hair, so as to resemble as much as possible the nest of the species to which it is allied."

Crimson, or Red-shouldered Black-bird. (*Agelaius phœniceus*, var. *gubernator.*)

Fig. 29.

A Pacific Coast variety of our common Red-winged Black-bird (*Agelaius phœniceus*), Plate XXXIII, figs. 2 and 3, page 44. Their habits, notes, and characteristics are similar.

Western Meadow, or Old Field Lark. (*Sturnella magna*, var. *neglecta.*)

Fig. 30.

This variety was first made known by Messrs. Lewis and Clark, at the time of their expedition to the Rocky Mountains. In man

ners and general habits it is similar to the common Meadow Lark (*Sturnella magna*), Plate XXIV, page 23. Its striking characteristic is its song, which is spoken of as highly musical.

Mr. Ridgeway, who found this bird very numerous in California, and all fertile portions of the interior as far east as the Missouri, says, although closely resembling the eastern bird in appearance, its song is totally different, not a note uttered by it having more than a very distant resemblance to any of the well-known magna of the eastern meadows. In the depth of its tone and the charms of its articulation, its song is hardly excelled, resembling very nearly the song of the Wood Thrush; its modulation is best expressed by the syllables *tung-tung-tungah-til'lah-til'lah-tung*, each note powerful and distinct. He adds that, the difference between the other notes of the two birds is still greater than in their song, and even in character these are not alike. In the *neglecta*, the call-note of watchfulness or alarm is a loud, deep-toned *tuck*, similar to the *chuck* of the Black-bird, but much louder and more metallic. That of sympathy for the young, or anxiety when the nest is approached, is a loud, liquid *tyar*, slightly resembling the complaining note of the eastern Black-bird, and also of the Orchard Oriole. Their flight is also quite different. That of the eastern species is carried on by an occasional spasmodic beat or jerk of the wings, which are then extended, the bird sailing a short distance. The flight of the Western Lark is much more irregular, the bird flitting along by a trembling flutter of the wings, never assuming those peculiar features.

Brown, or Crissal Towhee; Canon Finch. (*Pipilo fuscus*, var. *crissalis.*)

Fig. 31.

This Towhee is met with on the coast of California. Dr. Cooper regards it as one of the most abundant and characteristic birds of California, residing in all the lower country west of the Sierras, and extending up the slopes of the Coast Range to the height of three thousand feet. Their habits are similar to those of all other species, living much upon the ground, and seeking their food among the dead leaves, which they generally resemble in color. They have but little song, and only utter a few faint chirps, and hurried notes, as they sit perched upon some low bush, in the spring.

Cape, or White-throated Towhee. (*Pipilo fuscus*, var. *albigula.*)

Fig. 32.

This variety was first met with by Mr. Xantus, in the southern extremity of the peninsula of Lower California. Nothing is known in regard to its habits, but is supposed to be similar to other species.

PLATE CV.

Rio Grande, or Green Jay. (*Xanthoura incas*, var. *luxuosa.*)

Fig. 1.

This beautiful Jay is a resident of the Valley of the Rio Grande, thence southward into Mexico. It was first described by the French Naturalist, M. Lessor. Specimens were obtained by Lieutenant Couch, on the Rio Grande, at Matamoras, New Leon, and San Diego, Mexico, who states that its food consists of seeds and insects. Colonel McCall was the first who collected specimens of this species within the limits of the United States. They were obtained in the forests that border the Rio Grande, on the southeastern frontier of Texas. They were mated, and had their nests in the extensive and almost impenetrable thickets of mimosa, commonly called chaparral. In character and temperament, these birds appeared to be very active and lively, though less noisy than some other species of the family. Their gay plumage was exhibited to great advantage, as they flitted from tree to tree, or dashed boldly in pursuit of such of their more plainly attired neighbors as ventured to intrude upon their domains.

Sierra, or Blue-fronted Jay. (*Cyanurus stelleri*, var. *frontalis.*)

Fig. 2.

This variety is an inhabitant of the whole length of the Sierra Nevada. Its habits and characteristics are very similar to the Eastern Blue Jay (*Cyanura cristatus*), represented on Plate XXXIX., figs. 3 and 4, page 55, and those of the typical bird, Steller's Jay (*Cyanura stelleri*), represented on Plate LXXI., fig. 1, page 101.

Long-crested Jay. (*Cyanura stelleri*, var. *macrolopha.*)

Fig. 3.

This variety, in habits and manners, is similar to the species mentioned above. The Southern Rocky Mountain region is its place of habitation.

Sieber's Jay. (*Cyanocitta ultramarina*, var. *sordida.*)

Fig. 4.

Very little is known regarding the habits of this variety. Its habitat is mostly along the southern borders of Arizona and New Mexico.

Linné Hummingbird; Linnaeus Emerald. (*Thaumatias linnæi.*)

Fig. 5.

These birds belong to South and Central America, and extend their migrations to Guatemala. The species is figured in this work as a member of our North America fauna, although it is very doubtful if it is entitled to that recognition. It is said that Mr. William Brewster shot a specimen in the summer of 1868, near Mount Auburn, Cambridge, Massachusetts. Nothing has been given to the public as regarding any distinctive habits.

Heloisa's Hummingbird. (*Atchis heloisa.*)

Fig. 6.

This little Hummer was first discovered by Mr. Delattro, on the highlands of Mexico, between Jalapa and Quatepa. He states that the male bird is known to rise very early in the morning, and is never seen in quest of food later than nine in the forenoon. It very seldom goes to any distance from its mate or young, seeming to prefer to frequent the flowers in the edge of forests, but does not disdain those of open fields. This bird is accorded a place in the list of North American species on the ground of a specimen taken by Mr. Clark, at El Paso, Texas.

Xantus' Hummingbird. (*Heliopædica xantusi.*)

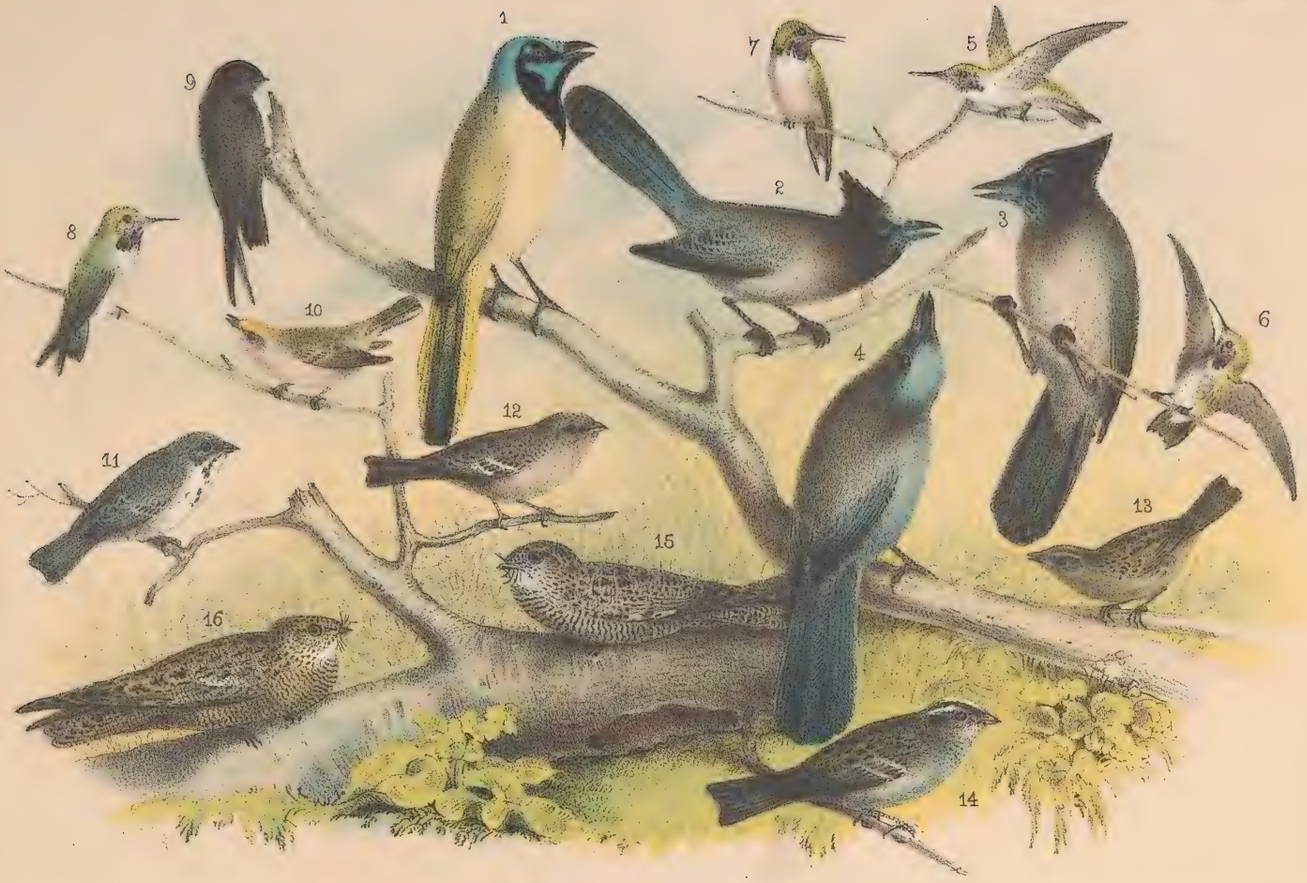
Fig. 7.

This distinctly-marked species was discovered by Mr. Xantus, at Cape St. Lucas.

Refulgent Hummingbird. (*Eugenes fulgens.*)

Fig. 8.

A new species of Hummingbird, discovered a few years ago, by Mr. H. W. Henshaw. It is a resident of Arizona.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Black Swift. (*Nephœcetes nigar*, var. *borealis.*)

Fig. 9.

Western North America and the West Indies is the irregular habitat of this rare species. Its general habits and characteristics are very similar to the Chimney Swift, represented on Plate LXXVI., fig. 7, page 118.

Pacific Orange-crowned Warbler. (*Helminthophaga celata*, var. *lutescens.*)

Fig. 10.

This bird is the Pacific Coast variety of our Common Orange-crowned Warbler (*Helminthophaga celata*), represented on Plate LXX., fig. 10, page 100. Its migrations are said to extend from Alaska to Cape St. Lucas.

Nevada Finch; Artemisia Sparrow. (*Poospiza belli*, var. *nevadensis.*)

Fig. 11.

These birds, according to Mr. Ridgeway, have a very general distribution, extending as far west as the eastern base of the Sierra Nevada. At Carson City, February 27, he heard for the first time their sweet, sad chant. A week later, he found the sage-brush full of these birds, the males being in full song and answering one another from all directions. In walking through the sage-brush these Sparrows were seen on every side, some running upon the ground with their tails elevated, uttering a chipping twitter, as they sought to conceal themselves behind the shrubs. Some were seen to alight upon the tops of dead stalks, where they sit with their tails expanded almost precisely after the manner of the King-bird. The song of this bird is feeble, but is unsurpassed for sweetness and sadness of tone. While its effect is very like the song of a Meadow Lark singing afar off, there is, besides its peculiar sadness, something quite unique in its modulation and delivery. It is a chant, in style somewhat like the spring warbling of the Shore Lark. See Bell's Finch (*Poospiza belli*), Plate C., fig. 10, page 147

Cassin's Sparrow, or Pine Finch. (*Peucæa cassini.*)

Fig. 12.

Texas to California, southward to Mexico and north to Kansas, is the range of this species. Its habits, general appearance, nest-building and eggs are similar to Bachman's Finch, represented on Plate LXVI., fig. 4, page 95. Mr. Allen met with this bird in Kansas, and says, "it is rather common along the streams, when its low but peculiarly sweet song is heard at morning and evening, beginning with the first approach of dawn and continuing at evening considerably after nightfall. It is very retiring, and it was only after several attempts that I discovered the author of the sweet notes that at these still hours added greatly to the pleasure of camping on the plains."

Arizona Sparrow or Finch. (*Peucæa æstivalis*, var. *arizonæ.*)

Fig. 13.

This bird is a variety of Bachman's Finch, represented on Plate LXVI., fig. 4, page 95. It is met with in Los Nogales, Sonora, and Southern Arizona. Their habits, nesting and eggs are similar.

Gambel's, or Western White-crowned Sparrow. (*Zonotrichia leucophrys*, var. *gambeli.*)

Fig. 14.

Gambel's Sparrow is the Pacific Coast variety of our common White-crowned Sparrow, represented on Plate XXXVI., fig. 7, page, 49. It is found in great abundance from Mexico to the Arctic Ocean, between the Rocky Mountains and the Pacific. Dr. Suckley says, it makes its nest in low bushes, among the stalks of lupins and other shrub-like weeds. Dr. Cooper describes its song as loud, but short and melancholy, heard at intervals during the whole year, and frequently at night. Its food consists almost wholly of seeds, sought mostly on the ground.

Texas Night-hawk. (*Chordeiles acutipennis*, var. *texensis.*)

Fig. 15.

The Texas Night-hawk was added to our fauna in 1851, by Mr. Lawrence. It is met with in the Valley of the Rio Grande from Texas on the east, through New Mexico, Arizona, Southern California, and Cape St. Lucas. During the summer months it is found in the northern provinces of Mexico, thence southward to Central America. Dr. Cooper says they become quite numerous about Fort Mohave by the 17th of April, hunting in companies after sunset, and hiding during the day on the ground under low bushes. By the 25th of May they had all paired, but continued nearly silent, making only a low croaking when approached.

Western Night-hawk, or Bull-bat. (*Chordeiles virginianus*, var. *henryi.*)

Fig. 16.

This bird is a Western variety of our common typical species (represented on Plate LXXII., fig. 16, page 181). It was first described in 1866, by Mr. Cassin, from specimens obtained by Mr. Henry at Fort Webster, New Mexico. The habits of these birds are similar.

Yellow-throated Gray Warbler. (*Dendroica dominica*, var. *albilora.*)

Fig. 17.

The habits and characteristics of this bird are similar to those of the *Dendroica dominica*, represented on Plate V., fig. 7, page 7. In summer it migrates from the Mississippi region of the United States to Lake Erie, leaving for the Atlantic, thence to Mexico to winter.

Vaux's, or Oregon Chimney Swift. (*Chætura vauxi.*)

Fig. 18.

Vaux's Swift was first discovered by Mr. Townsend, on the Columbia River, breeding in hollow trees, forming a nest in a similar manner, and laying four pure white eggs. Its habits are similar to the common Chimney Swift, represented on Plate LXXVI., fig. 7, page 118.

Green Black-capped or Pacific Coast Fly-catcher. (*Myiodioctes pusillus*, var. *pileolatus.*)

Fig. 19.

A Pacific Coast variety of our common species, represented on Plate XLVII, fig. 1, page 63. Dr. Suckley found it a very abundant species on the coast, where it frequents thickets and

small scrab-oak groves, flitting about among the dense foliage of bushes and low trees, in a busy and restless manner. Their note he describes as a short chit-chat call.

Ash-throated or Mexican Fly-catcher. (*Myiarchus crinitus*, var. *cinerascens.*)

Fig. 20.

A Pacific Coast variety of our common Great Crested Fly-catcher (*Myiarchus crinitus*), Plate XXXII, fig. 1, page 41. It is a common bird at its extreme northeasterly point, thence southwardly throughout Mexico, as far as Guatemala, westward to the Pacific Coast. It has been obtained by several naturalists in various parts of California. Mr. Ridgeway says, it was most abundant among the oaks of the plains between the Sacramento river and the Sierra Nevada; but in the wooded river valleys of the interior, as well as in the cedar and piñon or mahogany woods on the mountains of the latter region, it was also more or less met with. In its manner it is described as a counterpart of its eastern relation; but its notes, though generally similar in character, have not that strength which makes the vociferous screaming whistles of the eastern species so noticable.

Couch's Fly-catcher, or King Bird. (*Tyrannus melancholicus*, var. *couchi.*)

Fig. 21.

This bird is met with in regions north of Guatemala.

Cassin's Fly-catcher. (*Tyrannus vociferans.*)

Fig. 22.

A common species met with in the southwestern United States, thence southward. At Vera Cruz it is known by the name of *Portuguéz*. Dr. Coues reports it to be an abundant summer resident in Arizona, arriving there in April and remaining until September. Dr. Cooper says, it is a common resident throughout the year, in the southern half of California, as far north as Los Angeles. It begins its song by daylight, and generally from the top of some high tree. The note is loud and much more musical than those of the other species, and exhibits considerable variety for a bird of this family. Its food consists of insects, which it catches while sitting quietly on a perch. The nest is five and a half inches in external diameter, and about ten and a half in height. The cavity is three inches wide at the rim. The eggs, two in number, are white, with large, scattered reddish-brown and umber blotches; measure .96 of an inch in length and .70 in breadth.

Lawrence Fly-catcher. (*Myiarchus lawrencei.*)

Fig. 23.

A rare bird, met with in Mexico and Central America. Its general characters are similar to the Ash-throated or Mexican Fly-catcher, figure 20 on this plate.

Rufous-winged Sparrow. (*Pencæa carpalis.*)

Fig. 24.

This is a new species discovered by Captain Bendire in Arizona, he reports it rather common in the vicinity of Tucson. Its call note resembled the syllables *zib-zib-zib*. Its nest is usually built early in June in the small mesquite bushes, sometimes not over six inches, seldom more than four feet, from the ground. The nests are composed of fine dry grasses and rootlets, and lined with the fine, slender seed-tops of the secatom or rye-grass, and sometimes with a few hairs. It is very deep, and firmly fixed into a fork of the bush in which it is built. The eggs are of a pale green color, and average .73 of an inch in length by .58 in breadth, and are unspotted.

Townsend's Bunting. (*Æuspiza townsendi.*)

Fig. 25.

A single specimen of this species is known to exist, and is among the collection at the Smithsonian Institute. It was shot by Dr. J. K. Townsend, near New Garden, Pennsylvania. He met with it in an old field grown up with cedar-bushes, May 11, 1833. It is a question among our ornithologists, whether this is a distinct species or a variety of the Black-throated Bunting (*Æuspiza americana*), Plate LVI., fig. 2, page 82.

Cape, or St. Lucas Woodpecker. (*Picus scalaris*, var, *lucasanus.*)

Fig. 26.

This variety is met with at Cape St. Lucas. Its habits are considered similar to the typical species of the Texan Woodpecker, represented on Plate CI., fig. 2, page 148.

Yellow-faced, Yellow-bellied, or Yellow-vented Woodpecker. (*Centurus aurifrous.*)

Fig. 27.

The Rio Grande region of the United States south into Mexico is the residence of this abundant and beautiful Woodpecker. Dr. Woodhousesays it has a loud sharp cry, which it utters as it flies from tree to tree. He also noticed its habit of diligently searching in a manner common to this family on the trunks of the mesquite.

Nuttall's Woodpecker. (*Picus nuttalli.*)

Fig. 28.

A California Coast species that was first met with by Dr. Gambel, near Los Angeles, California, who describes it as having the usual habits of Woodpeckers, familiarly examining the fence-rails and orchard-trees for its insect-fare. Mr. Ridgeway describes its notes as very peculiar, the usual one being a prolonged querulous rattling call, unlike that of any other bird known to him.

Gila Woodpecker. (*Centurus uropygialis.*)

Fig. 29.

In the valley of the Colorado and Gila is the residence of this bird, which was first discovered by Dr. Kennerly, who met with it almost continually along his route, the Big Sandy, Bill Williams Fork, and the Great Colorado. It is a very shy bird, and it gave him considerable trouble to obtain specimens. Whilst seated in the top of the tree, it was ever on guard; and, upon the approach of danger, flew away, accompanying its flight with the utterance of very peculiar notes. Its flight was in an undulating line, like that of other birds of this class.

Williamson's, or Black-breasted Woodpecker. (*Sphyrapicus thyroideus.*)

Fig. 30.

The male representation of this species, the female is represented on Plate LXXXIX., fig. 2, page 134. It is only a short time since Mr. Henshaw discovered that these birds are one and the same species. In this connection Dr. Coues says: no point

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in our ornithology could have been more novel and unexpected than was Mr. Henshaw's announcement of the fact, which he determined beyond reasonable question, that he found the two supposed species paired and rearing a family in the same hole. It is not uninstructive now to look back upon the history of the supposed species. In the first place we notice that the two have always been accredited with the same geographical range, and have generally been found together; at least, most papers containing a notice of one, also give the other. Next we observe, in most cases, hesitation and evident uncertainty in descriptions of the sexual differences of each supposed species, the female of "*williamsoni*" and the male of "*thyroideus*" having been groped for indeed, but not found. Nor is there, in the fairly large amount of material received at the Smithsonian, an unquestionable specimen of the opposite sex of either of the supposed species. As indicating how far we may sometimes go astray, these birds have been placed in several different genera, so widely have the sexes of one species been dissociated; while the biographical notices which have appeared are not entirely concordant, showing how much our written history of living birds may be tempered by evidently fortuitous circumstances of observation, or transient impressions of an observer.

Red-naped, Yellow-bellied, or Nuchal Woodpecker. (*Sphyrapicus varius*, var. *nuchalis*.)

Fig. 31.

A variety that is met with in the middle provinces of the United States. Its habits are very similar to the typical bird *Sphysopicus varius*, Plate IX., figs. 3 and 4, page 10. Mr. Ridgeway found it a very abundant species of the Wahsatch and Uintah Mountains. It was also found, in greater or less numbers, throughout the Great Basin, and one specimen was seen on the eastern Sierra Nevada. Its favorite resort, during summer, was the aspen groves in the mountains, at an altitude averaging about seven thousand feet; and even when pine woods were near the aspens were invariably chosen as nesting places. In winter it was found among the cottonwoods and willows of the river valleys.

Arizona Ultramarine Jay. (*Aphelocoma ultramarina*.)

Fig. 32.

The above name has been given to two varieties of the Canada Jay, one of which was from Alaska and the other from the Rocky Mountains.

PLATE CVI.

Crested Grebe. (*Podiceps cristatus*.)

Fig. 1.

This stately bird is a general inhabitant of North America; also of Europe and other parts of the Old World; in fact, wherever suitable pieces of water exist this bird is to be met with. According to Behm, these birds, in early spring, make their appearance in pairs, but towards the autumn large parties of them may be seen together, consisting of fifty or sixty individuals, who keep company with each other during their migration southward. In their migrations it is generally understood that these birds only travel by night, and that wherever large lakes or rivers are to be found, as also along the sea-coast, they make their way principally by swimming. During the summer season the Crested Grebe takes up its abode on extensive lakes, where reeds and other water plants are abundant. Their powers of swimming and diving are quite wonderful. According to Nauman's observations, this Grebe will dive, in the course of half a minute, to the distance of two hundred feet. Its flight, too, when it thinks proper to take wing, is tolerably swift; it always proceeds in a straight line, and the whirring noise made by the rapid motion of its wings is audible at some distance. In its behavior it seems to be the most circumspect and the shyest member of the family, and is not easily approached, more especially as it generally keeps in open water, where it can see to a distance. If surprised, when in the vicinity of a bed of reeds, it immediately takes refuge among them, but only so long as to enable it again to plunge into deep water; if pursued it immediately dives, and when it comes up again to breath, allows only its beak to appear above the surface, and as soon as it has taken breath dives again, until it has placed itself quite beyond reach of danger.

The male and female sit upon the eggs alternately; but the female has the greater share in the business of incubation, the male often swimming around the place, apparently for the purpose of keeping her company. Should, however, both be obliged to leave the nest at the same time, they carefully cover the eggs with a mass of half rotten water-plants, brought up from the bottom for the purpose. In about three weeks the young are hatched, even from eggs which during a great part of the time have been lying in the water. From the first moment they are able to swim, and in the course of a few days to dive; they are, however, constantly accompanied by their parents, who often give them shelter under their wings. Having once quitted the nest, the young ones seldom return to it, a comfortable resting and sleeping place being afforded to them on the backs of their parents.

Horned Grebe. (*Podiceps cornutus*.)

Fig. 2.

The Horned Grebe is a common species to North America, as well as Europe and Asia.

Dr. Kennerly's manuscript contains the annexed observations in regard to the Western Grebe and the Horned Grebe:

"This species, and the *Podiceps cornutus*, are very common on Puget's Sound. They are rather more rare during the summer months than in the autumn and winter. During the latter seasons they may almost always be found—two, rarely more, in company—coasting near the shore, diving rapidly in search of food. When desirous of descending beneath the water, they seem to raise themselves partially from the surface, and describing as they descend, almost a perfect arc of a circle. Few birds are more graceful on the water than these interesting species; and it has afforded us many moments of real enjoyment to watch them gliding rapidly and smoothly over its surface, or performing in rapid succession their graceful curves as they disappear beneath its surface. They do not often take to wing, relying more on their powers of swimming and diving as a means of escape from enemies; when they do fly, they rise very awkardly from the water, often for a long distance dragging their dangling legs before they succeed, and often, under such circumstances, abandoning the effort, they stop and suddenly disappear beneath the surface. They follow up the streams emptying into the Sound for long distances, many of them spending their summer on the lakes far inland, in the neighborhood of which they probably breed with the Large Loon (*C. torquatus*). I have often seen large flocks of them on Chiloweyuck Lake from August to September, and perhaps later."

St. Domingo Grebe. (*Podiceps dominicus*.)

Fig. 3.

This species, according to the latest information, is an inhabitant of our Southern border, and is the only North American representative of the group.

Dab-chick; Pied-billed Grebe; Dipper; Diedapper. (*Podilimbus podiceps.*)

Fig. 4.

This well-marked bird is abundant throughout North America, in the places that Grebes are usually met with.

American Eared Grebe. (*Podiceps auritus.*)

Fig. 5.

In western Arctic America and in winter in the Pacific States this species is common. Dr. Coues saw the species alive in Southern California, where he found it to be very common, both on the waters of the bay of San Pedro and in the sloughs back of the coast. They were of course in immature dress, the season being November. During the past year he was pleased to find the birds breeding, in pools about Turtle Mountain, with various other waterfowl. This is apparently the northeasternmost point at which the species has been observed. Visiting this locality in July, he was too late for eggs, for the young were already swimming, and, in most cases, fledged. The birds were very common, rather more so than *P. cornutus*, with which they were associated. Many specimens were secured in their full nuptial dress. The change begins in August, but it is not completed until well into the following month, as traces of the breeding plumage persist several weeks after it has grown faded and obscure. On the breeding grounds, as just said, the Eared Grebes were more plentiful than the Horned, since a majority of the latter breed further north; but upon the migration, when these come south, the proportion is reversed. Both species were to be seen together upon all the water-courses of Northern Dakota when he left the country in the middle of October. He saw nothing notably different in their general habits.

Red-necked Grebe. (*Podiceps griseigena.*)

Fig. 6.

The habitat of this species is Greenland and America, a fact that has been established by Dr. Coues. It was formerly considered identical with that of the Old World.

Western Grebe. (*Podiceps occidentalis.*)

Fig. 7.

Clark's Western Grebe. (*Podiceps occidentalis*, var. *clarkii.*)

Fig. 8.

Both of these birds are met with west of the Rocky Mountains. They are considered the largest Grebes of this country. Dr. Coues observed them frequently on the California coast, at San Pedro, in November, when they were common on the waters of the harbor, with the Pacific Diver, Cormorants, and numerous other waterfowl. They are fine-looking birds on the water, have a trim and shapely aspect, like a clipper ship, while their long sinuous neck is held in a graceful curve, or variously deflected to either side. A specimen which he opened had the stomach filled with a kind of aquatic grass. The birds were not very shy and several were readily procured, notwithstanding their great powers of diving.

Yellow-billed Loon. (*Colymbus torquatus*, var. *adamsii.*)

Fig. 9.

Alaska and the interior of Arctic America is the residence of this species. It is similar in appearance, with the exception of the bill, to the Great Northern Diver Loon, Plate XIV., fig. 1, page 14.

Black-throated Diver. (*Colymbus arcticus.*)

Fig. 10.

The Black-throated Diver is an inhabitant of the northern hemisphere. It is smaller than the preceding, but very much like it in its colors and markings. Mr. Dunn, who observed these birds in Norway, writes that the eggs have a rank fishy taste, but are much sought after by the Lapps. After the young are hatched, both male and female are very assiduous in bringing them food, and may be seen flying at a vast height, with fish in their beaks, from one lake to another; on arriving over the lake where they intend to alight, they descend very suddenly in an oblique direction. Their cries are very peculiar during the breeding season, and may be heard at a great distance. The voice is said to be very melancholy, and to resemble the cry of a human being in distress.

Fork-tailed Petrel. (*Oceanodroma furcata.*)

Fig. 11.

Hornby's Petrel. (*Oceanodroma hornbyi.*)

Fig. 12.

Ashby Petrel. (*Cymochorea homochroa.*)

Fig. 13.

Black Petrel. (*Cymochorea melania.*)

Fig. 14.

Wedge-tailed, or Least Petrel. (*Halocyptena microsoma.*)

Fig. 15.

Leach's Petrel. (*Cymochorea leucorrhoa.*)

Fig. 18.

Petrels, Swallow Petrels, or Storm-birds are distinguishable from all other birds by the circumstance that their nostrils are represented by horny tubes, situated upon the upper beak. Nuttall says of them, they are oceanic birds, wandering out far from the land nearly at all seasons of the year, and are found in all parts of the world. Their flight is rapid, like that of the swallows, which they so much resemble in general appearance; they fly low, skimming the water, and attentively scanning its surface for their diminutive prey of marine insects and small molusca. They venture out at all times of the day in quest of their accidental fare, and follow the wakes of vessels partly for the animal productions which are thus whirled to the surface, and not less for the fat and other animal matters which are occasionally ejected from the decks. In stormy weather they easily find shelter from the blast by skimming through the valleys of the mountain waves. They are often seen tripping upon the surface of the water, while eagerly engaged in seizing their food, balancing themselves with singular lightness, by gently flapping and fanning their expanded wings. At such times they often dip their heads beneath the water, and though they swim and rest upon that element at night and in fine weather, they are incapable of diving. Their voice is low, gutteral, and somewhat chattering, particularly at night and during clear weather. They breed in society near the sea, selecting for their nests the holes and cavities of rocks, which they sometimes burrow out for themselves, but often make use of the deserted resorts of other hiding animals; the eggs are one or two, and they feed

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their young by disgorging food; at these times, and on other occasions, they are observed to hide themselves by day, and sally out towards twilight in pursuit of their prey. They are, however, by no means nocturnal when at sea, and are seen alike in fair or foul weather, but scarcely follow vessels but in breezes, as their own ordinary resources for obtaining food are equally productive in calm weather.

The Fork-tailed Petrel is an inhabitant of North Pacific coast.

Hornby's Petrel is an inhabitant of the Northwest coast.

The Ashy Petrel is met with on the California coast.

The Black Petrel is also an inhabitant of the coast of California.

The Wedge-tailed, or Least Petrel has been found in Lower California.

Leach's Petrel is common to both coasts.

Ruff. (*Philomachus pugnax.*)

Fig. 16.

This bird, originally a native of the northern portion of the Eastern hemisphere, is occasionally met with on the New England coast, and in the Middle States. In the old world it is a widely distributed species, and is particularly noted for its pugnacity. Nauman says, that this species never remains near or ventures into the water, but after joining in the busy scene for a short time, always returns to its usual haunts. Unlike other Sandpipers, these birds are met with far inland, where they not only dwell upon the banks of rivers, but wander into the plains and cultivated districts. Water insects, beetles, and worms, with seeds of many kinds, afford them the means of subsistence, and for these they seek principally at early morning or evening, visiting certain spots with great regularity, and keeping strictly within a limited hunting ground. Whilst thus engaged they move leisurely, and with conscious dignity, keeping steadily and quietly at work, and only betraying their presence by a weak hoarse cry, as they rise with light and hovering wing into the air.

Solitary Tattler, Wood Tattler, or Sandpiper. (*Totanus solitarius.*)

Fig. 17.

This species is abundantly to be met with during the migration season, spring and fall, in most all wet woods, moist meadows and secluded pools. Its breeding places are usually found in the mountainous portions of the United States and northward. Their food consists of aquatic insects of all sorts, thin worms, grubs, and at times the smaller sorts of molluscs, also sand and gravel to assist digestion. The note of this bird, when alarmed, consists of a low whistle, uttered as they fly off.

PLATE CVII.

Pacific Fulmar. (*Fulmarus glacialis*, var. *pacificus.*)

Fig. 1.

Rodger's Fulmar. (*Fulmarius glacialis*, var. *rodgeri.*)

Fig. 2.

Slender-billed Fulmar. (*Fulmarius tennerostris.*)

Fig. 3.

The habits and characteristics of these birds are similar to those of the Petrels, figures 11, 12, 13, 14 and 15, mentioned on Plate CVI., page 160, and of the Fulmar represented on Plate LXXV., fig. 6, page 116.

The Pacific Fulmar is a North Pacific coast variety of the Fulmar (*Fulmarus glacialis*), represented on Plate LXXV., fig. 6, page 116, has a weaker bill and is darker on the mantle.

Rodger's Fulmar is also a North Pacific coast variety of the Fulmar just mentioned. Its mantle being still darker than the variety Pacific Fulmar.

The Slender-billed Fulmar is a casual visitor to the Pacific coast.

Cinereous Puffin, or Sheerwater. (*Puffinus kuhlii.*)

Fig. 4.

Dusky Puffin, Sheerwater, or Petrel. (*Puffinus obscurus.*)

Fig. 5.

Greater, or Wandering Puffin, or Sheerwater. (*Puffinus major.*)

Fig. 6.

Flesh-footed Puffin, or Sheerwater. (*Puffinus creatopus.*)

Fig. 10.

Black-tailed Puffin, or Sheerwater. (*Puffinus melanurus.*)

Fig. 11.

Sooty Puffin, or Sheerwater. (*Puffinus fuliginosus.*)

Fig. 12.

Manks Puffin, or Sheerwater. (*Puffinus anglorum.*)

Fig. 13.

Black-vented Puffin, or Sheerwater. (*Puffinus opisthomelas.*)

Fig. 14.

Dark-bodied Puffin, or Sheerwater. (*Puffinus amaurosoma.*)

Fig. 15.

Slender-billed Puffin, or Sheerwater. (*Puffinus tenuirostris.*)

Fig. 16.

Puffins, or Sheerwaters are met with in most all parts of the Old as well as the New World, and like the Stormy, or Swallow Petrels, or Fulmars, live almost wholly out at sea. Their chief characteristic, and for which they are distinguished, consists of their power of diving to obtain food, which consists of fishes and molluscous animals. They are also distinguishable from all their allies by the violence of their flight. They visit the land for the purpose of hatching and rearing their young, during which time they are usually met with in such vast numbers as to almost cover the rocks on which they build. At other times they are met with in flocks of from six to twelve.

The Cinereous Sheerwater is a bird lately introduced to our North American fauna. It is a common species of the North Atlantic.

The Dusky Sheerwater, a common species of the South Atlantic coast, as far as the Middle States.

The Great, or Wandering Sheerwater, is an abundant species, met with on the whole extent of the Atlantic coast.

The Flesh-footed Sheerwater has been met with at St. Nicholas Island, California.

The Black-tailed Sheerwater is met with off the coast of California.

The Sooty Sheerwater is a common species of the North Atlantic, thence south to the Carolinas.

Manks Sheerwater is a common and distinctly marked species of the North Atlantic coast.

The Black-vented Sheerwater is a Cape St. Lucas species.

The Dark-bodied Sheerwater is also a Cape St. Lucas species.

The Slender-billed Sheerwater is a species of the North Pacific coast.

Pintato Petrel, or Cape Pigeon. (*Daption capensis.*)

Fig. 7.

This species is accidental to the coast of California. Gould says, this Martin among the Petrels swims lightly; but it rarely exercises natatorial power, except to procure food, in pursuit of which it occasionally dives for a moment or two. Nothing can be more graceful than its motions when on the wing, with the neck shortened and the legs entirely hidden among the feathers of the under tail covers. Like the other Petrels it ejects, when irritated, an oily fluid from the mouth. Its feeble note of '*cac, cac, cac, cac,*' is frequently uttered; the third, according to Captain Hutton, being pronounced the quickest.

Wilson's Petrel. (*Oceanites oceanica.*)

Fig. 8.

Wilson's Petrel is a common Atlantic Coast species. Its habits are similar to the Petrels represented on Plate CVI.

Aleutian Tern. (*Sterna aleutia.*)

Fig. 9.

This is a rare species; at present only four are known. They were taken off the Aleutian Islands.

Black-capped Petrel. (*Æstrelata hæsitata.*)

Fig. 17.

This bird has habits similar to the Petrels represented on Plate CVI. It is only occasionally met with on the Atlantic Coast.

Knob-billed, or Least Auk. (*Simorhynchus pusillus.*)

Fig. 18.

This well-marked little Auk is considered the smallest of our interesting sea birds. It is easily recognized by the black plumage on its upper parts and the pure white on the under parts, and by having white scapulars. It is met with on the Northwestern coast of North America.

PLATE CVIII.

Painted Goose; Emperor Goose. (*Philacte canagica.*)

Fig. 1.

A species that is quite common at the mouth of the Tukon, on the Northwest coast of the United States.

Blue Goose. (*Anser cærulescens.*)

Fig. 2.

This species for a long time has been supposed to be the young of the common Snow Goose (*Anser hyperboreus*). Whilst they do resemble it while young, it is now known to be a distinct species. When in full plumage it very much resembles the Painted Goose —figure 1 of this Plate. The Blue Goose is considered to be an inhabitant of North America, with an apparently general distribution along our coast and rivers.

Spectacled Eider. (*Somateria fischeri.*)

Fig. 3.

This well-marked Eider or Duck is a resident along the Northwest coast, and is claimed to be a common bird about St. Michaels. Although the name of these Ducks is supposed to be derived from the river Eider, they are in reality seldom found south of the 63d degree of north latitude. They are strictly sea birds; their walk upon dry land is made with extreme difficulty; often as they waddle along they stumble and fall down flat on the ground.

Parasitic, or Richardson's Jæger. (*Stercorarius parasiticus.*)

Fig. 4.

The coasts and rocky reefs of the Arctic regions of both hemispheres is the habitat of this bird, from which it often extends its migrations, for weeks at a time, far out of sight of land. During its flight, it frequently skims along like a Falcon, at one time giving a few rapid strokes with its wings, then sweeping onward to a considerable distance, somewhat after the manner of a kite; suddenly, however, it seems to shiver, or rapidly shake its wings, and precipitates itself downward, describing a sort of arch, mounts up again, and immediately adopts a course made up of an alternation of larger and smaller arches joined beneath each other. Its cry resembles that of a Peacock.

King Eider, or Duck. (*Somateria spectabilis.*)

Fig. 5.

The King Eider, another of these valuable sea-birds, is met along the coast of northern North America, south to the State of New Jersey, and as far in the interior as Lake Erie. According to Sir J. C. Ross, vast numbers of this beautiful duck resort annually to the shores and islands of the arctic region, in the breeding season, and have, on many occasions, afforded a valuable and salutary supply of fresh provision to the crews of the vessels employed on those seas. They do not retire far to the south in the winter, but assemble in large flocks, the males by themselves, and the females with their young brood, are often met with in the Atlantic Ocean, far distant from any land, where the numerous crustaceans and other marine animals afford them abundance of food.

Thick-billed, or Brunnich's Guillemot. (*Lomvia arra.*)

Fig. 6.

Sooty Guillemot. (*Uria carbo.*)

Fig. 7.

Pigeon Guillemot. (*Uria columba.*)

Fig. 8.

Kittlitz's Guillemot, or Murrelet. (*Brachyramphus kittlitzii.*)

Fig. 9.

Temminck's Guillemot. (*Synthliboramphus wurmizusume.*)

Fig. 10.

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Black-throated Guillemot. (*Synthliborhamphus antiquus.*)

Fig. 11.

Guillemots are another group of birds that pass most of their time upon the ocean; visiting land very seldom, except when the time of incubation arrives. When on land their walk resembles dancing. They do not fear man, as he seldom visits their wild resorts; but should a Falcon or an Eagle make its appearance thousands of them at once take wing, and hastily retreat to some place of safety. The countless pairs of which the vast assembly of these birds consist, exhibit the utmost constancy and attachment, and may be seen, before the eggs are laid, keeping constantly together, caressing each other with their beaks, and evincing the greatest affection.

Figure 2, on plate LXXV., is a representation of the Common or Foolish Guillemot (*Uria troile*), and on page 115 appears an account, to which the reader is referred for a more detailed reference of the habits of these species.

The Thick-billed, or Brünnick's Guillemot, is a resident of the North Atlantic, Arctic, and Pacific coasts, south to New Jersey and California.

The Sooty Guillemot is a resident of the North Pacific.

The Pigeon Guillemot is also a resident of the North Pacific Ocean.

Kittlitz's Guillemot, or Murrelet, is said to be a resident of the North Pacific Ocean.

Temminck's Guillemot is an extensive and numerous inhabitant of the whole of the Pacific coast to Cape St. Lucas.

The Black-throated Guillemot is a handsome bird of the North Pacific.

Whiskered Auk. (*Simorhynchus camtschaticus.*)

Fig. 12.

Crested Auk. (*Simorhynchus cristatellus.*)

Fig. 13.

Parrot, or Parroquet Auk. (*Phalaris psittacula.*)

Fig. 14.

Horn-billed Auk. (*Ceratorhyna monocerata.*)

Fig. 15.

Little Auk: Sea Dove, or Dovekie. (*Mergulus alle.*)

Fig. 18.

Auks, in their habits and modes of life, closely resemble the Guillemots represented on this plate.

The Whiskered Auk, the Crested Auk, and the Parrot, or Parroquet Auk, are inhabitants of the North Pacific Ocean.

The Horn-billed Auk is met with on the Pacific Ocean, in California.

The Little Auk is met with, in great numbers, along the coast of the North Atlantic, and in winter as far south as New Jersey and to Florida.

Large-billed Puffin. (*Fratercula arcticus*, var. *glacialis.*)

Fig. 16.

This Puffin is a resident of the Arctic Coast and is a variety of the common Puffin, Sea Parrot, or Coulterneb (*Fratercula arcticus*), Plate LXXV., fig. 4, page 115, Its habits are similar.

Figure 17 represents the Horned Puffin (*Fratercuta corniculata*), which is also similar in its habits and is met with on the same ocean.

PLATE CIX.

Red-billed Pigeon or Dove. (*Columba flavirostris.*)

Fig. 1.

This handsome Dove is a resident of the Lower Rio Grande River, and is also found on and near the Gulf coast of Mexico and Central America. They are said to be secluded in their habits and to have a very rapid flight.

White-Winged Dove. (*Melopeleia leucoptera.*)

Fig. 2.

The distribution of this species is quite extensive through Southwestern United States, Lower California, Arizona, New Mexico and Texas, south through Mexico to Central America, Cuba and Jamaica. Its food consists principally of grain and seeds, and it is also fond of ripe fruit. At the approach of a person they are at first quite wild, but with a little care they soon become tame. Its eggs are white, of equal size at either end, an oval in shape, and measure 1.25 inches by .92.

Band-tailed Pigeon. (*Columba fasciata.*)

Fig. 3.

The residence of this pigeon is in the Rocky Mountains, thence to the Pacific Ocean and southward to South America.

Dr. George Suckley, whose opportunities of investigation were excellent, has left the following record: "The Band-tailed Pigeon is a very common bird in Washington Territory, especially west of the Cascade Mountains; I saw but one flock, containing five individuals, east of those mountains. In 1856 the first birds of this species that arrived in the spring made their appearance about May 15, which is the customary time every year for their arrival. One or two individuals are first seen, and within two or three days thereafter the main body of the migration follows. A small number remain throughout the summer and breed; the rest retire further north. Those that remain generally make their nests in thick fir-forests, near water. They subsist during the summer on wild cherries and other berries, and later in the season, since the country has become settled, upon grain. About the first week in September large flocks congregate in stubble-fields in the vicinity of Fort Steilacoom, and for two or three weeks thereafter their numbers are daily augmented by arrivals from the north. Some flocks of these Pigeons, that I saw in September, must have contained at least one thousand individuals. I am told that in the cultivated districts on the Cowlitz River, at the same season, they are in still greater numbers. By the 5th of October, of the year 1856, all had suddenly disappeared, with the exception of a few stragglers, generally young birds. In flying, the flocks, I think, are not quite so compactly crowded as those of the Passenger Pigeon. During the summer, while breeding, their cooing can be heard a long distance. The name of this bird in the Nisqually language is 'hubboh,' a good imitation of its calls. . . . . In autumn these birds are in excellent order for the table; indeed, I prefer them to the Wild Pigeon of the Atlantic States."

Yellow Wagtail. (*Budytes flava.*)

Fig. 4.

This is an extensive and well-known European species, which

was entirely unknown to this country until the recent discovery of the bird by Dr. Bannister, at St. Michael's, Alaska, on the 9th and 10th of June; and from that until late in August they were among the most abundant of the land-birds. During the month of June he observed them in flocks of twenty or thirty individuals. It seemed to be rather a shy bird. He described its flight as like that of our common Goldfinch, rising with a few strokes of its wings, then closing them and describing a sort of paraboloidal curve in the air. The only note which he heard and identified as uttered by this species was a kind of faint chirp, hardly to be called a song. These birds seemed to prefer the open country, and were rarely observed in the low brush, the only approach to woods found on the island.

White-tailed Grouse; Ptarmigan. (*Lagopus leucurus.*)

Fig. 5.

This species, it is said, has the same habits as other Ptarmigans, and is a resident of the snowy peaks near the mouth of the Columbia, as well as the lofty ridges of the Rocky Mountains. Specimens of this bird have been found by Messrs. Drumond and MacPherson on the Rocky Mountains; the first obtained his in the 54th parallel, the latter on the same chain nine degrees farther south.

Rock Grouse, or Ptarmigan. (*Lagopus rupestris.*)

Fig. 6.

Arctic America is the habitat of this beautiful Grouse. It is numerous, says Hutchins, at the two extremes of Hudson's Bay, but does not appear at the middle settlements of York and Severn except in very severe seasons, when the Willow Grouse are scarce; and Captain Sabine informed Richardson that they abounded on Melville Island, latitude 75°, in the summer. They arrived there in their snow-white winter dress about the twelfth of May. By the end of the month the females had begun to assume their colored plumage, which was completed by the first week in June, when the change in the plumage had only just commenced in the males. Some of the latter were found as late as the middle of June in their unaltered winter plumage. This Grouse was also found on the Melville peninsula and the Barren Grounds, rarely going farther south, even in the winter, than latitude 53° in the interior, but, on the coast of Hudson's Bay, descending to latitude 58°, and in severe seasons still farther to the southward. In its general manners and mode of living it is said to resemble the *albus* (Willow Ptarmigan), Plate XCVI., fig. 2, page 143, but does not retire so far into the wooded country in the winter.

Florida Quail. (*Ortyx virginianus*, var. *floridanus.*)

Fig. 7.

This Quail is a Florida variety of our common Quail, or Bob White, represented on Plate XXVII, page 28.

Gambel's Partridge, or Quail; Arizona Quail. (*Lophortyx gambeli.*)

Fig. 8.

This is an abundant and beautiful species, inhabiting the wooded and well-watered regions of the mountains and valleys of New Mexico and Arizona. Dr. Kennedy found it in great numbers during the march of his party up the Rio Grande. Large flocks were continually crossing the road before them, or were seen huddled together under a bush. He again met with them in great numbers along the stream named Partridge Creek, and so continued to occasionally meet with them until he reached the Great Colorado. When pursued, it depends more on its feet as a mode of escape than on its wings. It runs very rapidly, but seldom was it noticed to hide and remain close in the grass or bushes in the manner of the eastern Quail.

Scaled or Blue Partridge or Quail. (*Callipepla squamata.*)

Fig. 9.

Col. McCall gives the entire valley of the Rio Grande as the habitat of this species. The entire region, embracing in its stretch between the Rocky Mountains and the Gulf of Mexico every variety of climate. This entire region, not excepting even the mountain valleys covered in winter with deep snow, is inhabited by it. Wherever found they were able to endure the great extremes of heat and cold. When running they hold their heads high and keep the body erect, and seem to skim over the surface of the ground, their white plume erected and spread out like a fan.

Don Pablo de la Llave, a Mexican naturalist, says of this species, that he attempted its domestication in vain. In confinement it was very timid, all its movements were rapid, and, although he fed his specimens for a long time each day, they seemed to become more wild and intractable. He met with the bird in all the mesquite regions of Northern Mexico. Their note, according to Mr. Clark, is very peculiar, and when first heard suggested to him the cry of some species of squirrel.

Carolina Parrakeet, or Parrot; Illinois Parrot. (*Conurus carolinensis.*)

Fig. 10.

This beautiful bird, once so numerous, is now restricted to the Southern Atlantic and Gulf States; at times it extends its migrations up the Mississippi valley as far as to the Missouri, the Great Lakes, and Wisconsin. In Florida, Louisiana, Arkansas, and the Indian Territory, they are found quite abundant. Mr. Allen says, in reference to their abundance in Florida:

"Hundreds are captured every winter on the Lower St. Johns, by professional bird-catchers, and sent to northern cities. Thousands of others are destroyed wantonly by sportsmen. Concerning this needless slaughter, Mr. Boardman thus writes; 'The little Parrakeet must soon be exterminated. Some of our Enterprise party would sometimes shoot forty or fifty at a few discharges, for sport, as they hover about when any are shot till the whole flock is destroyed.' From its habit of feeding upon the tender maize in autumn, it is somewhat injurious to the farmer, and for this cause, also, many are killed. It is also more or less hunted as a game bird. It is well known that the Parrakeet formerly inhabited large portions of the United States where it is now never seen, and the cause of its disappearance has been deemed a mystery. Such facts as these, however, seem to render clear what its ultimate fate must be in the United States—extermination."

Gilded Woodpecker; Cape Flicker. (*Colaptes chrysoides.*)

Fig. 11.

A new species of Woodpecker, met with in the Colorado valley, Lower California, and southward. Dr. Cooper, who obtained specimens of this species at Ft. Mohan, found them feeding on larvæ and insects among the poplar-trees, and says they were very shy and wary. It is abundant at Cape St. Lucas, and where found it is usual in valleys, very seldom on mountains.

Audubon's Oriole. (*Icterus melanocephalus*, var. *auduboni.*)

Fig. 12.

This pretty little Oriole, which is a late addition to our list of North American species, is met with in the valley of the Lower

Rio Grande, in the State of Texas, thence extending southward. Lt. Couch found this Oriole to be quite common on the Lower Rio Grande. He describes its song as soft and melancholy, and the notes resembling *peut-pou-it*. Mr. Clark, who also obtained several specimens from the Lower Rio Grande, found it abundant at Ringgold Barracks. Its quiet manners and secluded habits prevented it from being very conspicuous. It was frequently observed by him feeding on the fruit of the hackberry, but whenever approached, while thus feeding, it always showed signs of uneasiness, and soon after sought refuge in some place of greater concealment.

Great-tailed, or Central American Grackle. (*Quiscalus major*, var. *macrurus*.

Fig. 13.

Texas south into Central America is the residence of this species. Dr. Belandier says it is found in all parts of Mexico, and is known in that Republic as *Uraca*, *Pajaso*, *Negro*, and, in Acapulco, as *Papate*. It lives upon grain, mostly corn, devouring the planted seeds and destroying the crops. Mr. Taylor found them common about the villages in Honduras, and that they appeared to be polygamous, the males being generally attended by several females, and usually were seen sitting on the roofs of the houses, or among the upper branches of some orange trees that grew in the yard. Their peculiar cry was not unlike the noise produced by the sharpening of a saw.

Clarke's Crow; American Nutcracker. (*Picicorvus columbianus*.)

Fig. 14.

The range of this crow extends from the Rocky Mountains to the Pacific. According to Dr. Coues, it rarely descends below an altitude of three thousand feet, and has been observed on peaks ten thousand feet high. A hardy bird, finding its food at all seasons. Again, he says:

"Like others of this omnivorous family, Clarke's Crow is an indiscriminate feeder upon vegetable substances, giving preference, however, to the seeds of the pine, berries of the cedar, and acorns. Prying into a pine-cone with its long and peculiarly shaped beak, it gouges out the seeds, often hanging, while thus engaged, head downward, like a Thistle-bird swing under the globular ament of a button-wood. It also eats insects of various kinds, and has been observed pecking at dead bark to obtain them, and making short sallies in the air for the same purpose, like a Woodpecker. It sometimes descends to the ground in search of food, walking easily and firmly, like a true Crow; but we may infer, from the length and sharpness of its claws, that it does not spend much of its time on the ground.

"According to my observations, made at all seasons, excepting during the breeding time, Clarke's Crow is decidedly a gregarious bird. Flocks of fifty or a hundred are oftener witnessed than single birds, and Mr. Lord speaks of their appearance 'by thousands.' They are very noisy birds, uttering a harsh, discordant scream of great volume and penetration, and extremely wary, under ordinary circumstances, like most of the larger *Corvi*. The ordinary flight is rapid, straight, and steady, accomplished by regular and vigorous wing-beats; but when flying only from tree to tree, the birds swing themselves in an undulatory course, with the wings alternately spread and nearly closed, much in the manner of the Woodpeckers.

Common Crow, or American Fish Crow. (*Corvus americanus*, var. *caurinus*

Fig. 15.

A northwestern coast variety of our Common Crow, represented on Plate LXVII, fig. 2, page 96. Its migrations extending from the Columbia River to Sitka. In all its essential features, habits, and characteristics, it closely resembles the typical bird.

Fish Crow. (*Corvus ossifragus*.)

Fig. 16.

This crow is mostly confined to the coast, and to the banks of rivers branching therefrom, along its length from the New England States to Florida. Its habits differ in some respects to the Common Crow. Dr. Coues found it to be an abundant resident in the District of Columbia throughout the year, and noticed that it was less wary and suspicious than the Common Crow, and more confined to the borders of rivers. It is also believed to be more harmless, and its destruction of reptiles and vermin causes it to be considered a beneficial bird. According to Wilson, its voice is more hoarse and gutteral, and also more varied in its modulations. This Crow was also seen to perch frequently on the backs of cattle, in the manner of the Jackdaw of Europe. He never saw it mingle with the Common Crow, nor like it roost among the reeds and marshes near the water, but always seeks the shelter of the woods, in which to pass the night.

Florida Crow. (*Corvus americanus*, var. *floridanus*.)

Fig. 17.

This variety, so far as known, has a local habitation on the southern peninsula of the State of Florida. Dr. Cooper mentions it as very common, and as being quite maritime in its habits, and as having full fledged young on the 20th of April. It is very likely that the habits of this variety are similar to those of the typical bird.

Missouri Skylark; Sprague's Pipit. (*Neocorys spraguei*.)

Fig. 18.

This remarkable little singer is supposed to be confined to the Upper Missouri region, thence east to the Red River, and for a long time was considered a rare species. Dr. Coues found it one of the most abundant and characteristic birds of all the region along the forty-ninth parallel of latitude. He found no difficulty in taking as many specimens as he desired. He also adds that:

"The ordinary straightforward flight of the bird is performed with a regular rising and falling, like that of the Titlark; but its course, when startled from the ground, is exceedingly rapid and wayward; at such times, after the first alarm, they are wont to hover around in a desultory manner for a considerable time, and then pitch suddenly down to the ground, often near where they rose. Under these circumstances they have a lisping, querulous note. But these common traits have nothing to do with the wonderful soaring action, and the inimitable matchless song of the birds during the breeding season—it is no wonder Audubon grew enthusiastic in describing it. Rising from the nest, or from its grassy bed, this plain-looking little bird, clad in the simplest colors, and making but a speck in the boundless expanse, mounts straight up, on tremulous wings, till lost to view in the blue ether, and then sends back to earth a song of gladness that seems to come from the sky itself, to cheer the weary, give hope to the disheartened, and turn the most indifferent, for the moment at least, from sordid thoughts. No other bird-music heard in our land compares with the wonderful strains of this songster; there is something not of earth in the melody, coming from above, yet from no visible source. The notes are simply indescribable; but once heard they can never be forgotten. Their volume and penetration are truly wonderful; they are neither loud nor strong, yet the whole air seems filled with the tender strains, and delightful melody continues long un-

broken. The song is only heard for a brief period in the summer, ceasing when the inspiration of the love season is over, and it is only uttered when the birds are soaring."

Southwestern Lark. (*Eremophila alpestris*, var. *chrysolæma.*)

Fig. 19.

This variety is an inhabitant of the southwestern Territories, thence extending southward to New Grenada. Dr. Cones mentions this bird as being a permanent resident of Arizona, in all situations adapted to its wants. He also had an opportunity of observing the typical bird (represented on Plate LVI, fig. 4, page 82) in Labrador, where he found it very abundant on all moss-covered islands around the coast, and could notice nothing in their view, flight, or general manners, different from their usual habits in their southern migrations, except that during the breeding-season they do not associate in flocks.

PLATE CX.

Femoral or Aplomado Falcon. (*Falco femoralis.*)

Fig. 1.

This Falcon has an extended range, covering the whole of South America, thence northward through Central America and Mexico, across the Rio Grande, into Texas and New Mexico. Dr. Heerman obtained a specimen on the vast plains of New Mexico, near the United States boundary line. It appeared to him to be flying over the prairies in search of small birds and mice, at times hovering in the manner of the common Sparrow Hawk, represented on Plate XXXIX, figs. 1 and 2, page 54. This species is said to be easy of approach, differing in that respect with most Hawks.

Richardson's Falcon, or Merlin; American Merlin. (*Falco richardsonii.*)

Fig. 2.

The habitat of this Pigeon Hawk covers most of North America. It is also met with in Arctic America, in the United States, from the Mississippi to the Rocky Mountains. Its habits, so far as known, differ very little from our common Pigeon Hawk (*Falco columbianus*), Plate XXXII, figs. 3 and 4, page 40. The two species are very closely related, and often are taken to be the same birds.

Isabella Sparrow Hawk. (*Falco sparverius*, var. *isabellinus.*)

Fig. 3.

This bird is a southern variety of our common Sparrow Hawk (*Falco sparverius*), Plate XXXIX, figs. 1 and 2, page 54. Its habitat being mostly along the gulf coast of Mexico and the United States, through Texas and Louisiana, to Florida. The habits of this variety are similar to the typical species.

Mississippi Kite; Blue Kite. (*Ictinia mississippiensis.*)

Fig. 4.

This species is mostly confined to the extreme southern and southwestern portion of the Gulf States or the Atlantic. It extends as far north as South Carolina. On the Mississippi, where it is often met with in large numbers, it extends its migrations still farther north. Wilson first discovered this bird at Natchez, where he noticed it sailing about in easy circles, and at considerable height in the air, generally in company with the Turkey Buzzards, whose manner of flight it almost exactly imitated, so much so as to make it appear either a miniature of that species, or like one of them at a great distance; both being observed to soar at great heights previous to a storm. He supposes that this apparent similarity of manner of flight may be attributable to their pursuit of their respective kinds of food—the Buzzard on the lookout for carrion, and the birds of the present species in search of those large beetles that are known to fly in the higher regions of the air, and which, in the three individuals dissected by him, were the only substances found in their stomachs. For several miles, as he passed near Bayou Manahak, the trees were swarming with a kind of *cicada*, or locust, that made a deafening noise. He then observed a number of these birds sweeping about among the trees in the manner of swallows, evidently in pursuit of the insects, which proved, on dissection, to be their principal food. He was most impressed with the rapidity of the flight of this bird, also, its great strength and energy of character. Audubon admires it for its devotion to its young, and states that in one instance he saw the female bird lift up and attempt to carry out of his reach one of her fledgelings. She carried it in her claws the distance of thirty yards, or more.

Everglade Kite; Hook-bill Kite, or Black Kite. (*Rostrhamus sociabilis.*)

Fig. 5.

This bird is mostly confined to the southern portion of Florida and the West Indies in North America. It is well known in its own countries—Central and South America—and is described as very sociable in its habits; unlike, in this respect, to most all other birds of prey. Mr. Maynard noticed six or eight specimens, in Florida, frequently flying together, at one time, over the marshes, or sitting in company on the same bush. In their flights, they resemble the common Marsh Hawk. Are very unsuspicious, and may be quite readily approached. On dissecting a number of these birds, he found that it feeds largely on a species of fresh-water shell (*Pomus depressa*).

White-tailed Kite; Black-shouldered Kite. (*Elanus leucurus.*)

Fig. 6.

This beautiful and harmless bird is met with in the South Atlantic and Gulf States, chiefly coastwise. They are also found in Mexico and Central America. Dr. Cooper mentions this species as quite numerous in California, remaining in large numbers, during the winter, among the extensive tuli marshes of the Sacramento and other valleys. He met with these Kites as far north as Bauline's Bay, and near Monterey, but always about streams or marshes. Their food consisted entirely of mice, gophers, small birds and snakes, and they are not known to attack the inmates of the poultry yard. Audubon saw several of these birds in Texas, flying, at a small elevation, over the large marshes, and coursing in search of its prey in the manner of the common Marsh Harrier.

Kirtland's Owl; Saw-whet Owl; White-fronted Owl; Acadian Owl. (*Nyctale acadia.*)

Fig. 7.

According to Dr. Coues, the Acadian Owl is not so boreal a bird as its congener, being found throughout the United States in suitable places, and in the more southerly portions of British America. He found no decidedly arctic quotations. It is, however, more numerous in the northern half of the United States; and, although it has been traced far into Mexico, its southward extension appears to be mainly along wooded mountain ranges, the altitude of which compensates,

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in a faunal sense, for the decrease of latitude. Fitted to endure great cold, it is resident in our northern districts. He procured a specimen, in the depth of winter, at Boar's Head, on the New Hampshire coast, and another at Fort Randall, in January, when the temperature had been ranging far below zero. The last-named, a fine adult example, was brought to him alive by Lieut. W. J. Campbell, who found it in the possession of an Indian, and he kept it for some time in the doctor's study before it died, probably of inanition. It refused food, and after death its body was found greatly emaciated. Although so puny and weak, the little bird showed good spirit, setting back with an air of defiance when approached, snapping its little bill, and pecking as hard as it could when he took it in hand; but after soothing it for a few moments, it would seem appeased, roost quietly on his finger, and apparently liked to have its poll quietly scratched. In its noiseless fluttering about the room by night, it more resembled a big bat than a bird; in perching, as it did by preference, on the edge of the table or of a pile of books, it stood with its claws bent inward, so that their convexities, and not the points, rested against the support.

The food of this interesting little Owl, which is not so large as a Robin, though it appears bulkier, consists chiefly of insects. Its nesting, according to Wilson and Audubon, is various: sometimes it builds in the branches of trees, while at other times it will occupy the deserted nests of other birds, or lay in a hollow tree. The eggs are pure white, subspherical, of crystaline clearness, measuring one and one-eighth inches by one and seven-eighth inches.

Mr. Gentry informed him of a curious circumstance in regard to this Owl. Referring to the association of the Burrowing Owl of the West with the prairie-dog, he continues: "In the hollow of an oak-tree, not far from Germantown, lives an individual of the common chickaree squirrel (*Sciurus hudsonius*), with a specimen of this little Owl as his sole companion. They occupy the same hole together in perfect harmony and mutual good-will. It is not accidental temporary association, for the bird and squirrel have repeatedly been observed to enter the same hole together, as if they had always shared the apartment. But what benefit can either derive from the other?"

Western Mottled Owl; McCall's Owl. (*Scops asio*, var. *maccalli.*)

Fig. 8.

Northern Mottled Owl; Kennicott's Owl. (*Scops asio*, var. *kennicotti.*)

Fig. 9.

McCall's Owl is a variety or southern form, from the southwestern borders and southward; and Kennicott's Owl is a northern form or variety, from Alaska, of the common Mottled Owl, of North America, represented on Plate LXXXI, fig. 3, page 125.

Harlan's Buzzard, or Hawk; Black Warrior. (*Buteo harlani.*)

Fig. 10.

Audubon obtained a pair of these birds at St. Francisville, Louisiana. He considered it allied to the Red-tailed Hawk, or Buzzard, represented on Plate XXX, page 37. Its flight is described by him as rapid, greatly protracted, and so powerful as to enable it to seize the prey with apparent ease, or effect its escape from its stronger antagonist, the Red-tail, which pursued it on all occasions. He saw it pounce upon a fowl, and kill it almost instantly, and afterward drag it along the ground several hundred yards. He did not see it prey on hares or squirrels, but it seemed to evince a marked preference for poultry, partridges, and the smaller species of wild duck.

Cooper's Red-tailed Hawk, or Buzzard. (*Buteo cooperi.*)

Fig. 11.

Dr. Cooper obtained the only specimen known of this species, near Mountain View, in the Santa Clara Valley, California, in November, 1855. Its colors are somewhat lighter than any other of our North American *Buteos*.

Harris' Buzzard, or Hawk. (*Buteo anicinctus* var. *harrisi.*)

Fig. 12.

This bird is a South and Central American species, extending its migrations from the Isthmus of Panama north to our southern Gulf States. It was named in honor of Mr. Edward Harris, by Mr. Audubon, who first met with it in Louisiana. It is very common about the mouth of the Rio Grande. Mr. Dresser, who found it quite common throughout Texas, to the Colorado River, and at Matamoras, in summer, describes it as a heavy, sluggish bird, seldom seen on the wing, and subsisting, so far as he could see, entirely on carrion. All along the road from Brownsville to San Antonio, he noticed it, either perched on some tree by the roadside, or busy, in company with Vultures and Caracaras, regaling on some offensive carrion. He found it breeding in the neighborhood of San Antonio, Medina, and Altascosa Rivers, having eggs in the month of May. A nest found near Medina River was built of sticks, very slightly lined, and was placed in a low hackberry tree. The eggs, four in number, were white, with a faint bluish tinge, very sparingly spotted and blotched with red.

Chicken Hawk; Cooper's Hawk. (*Accipiter cooperii.*)

Fig. 13.

We copy from Dr. Coues' interesting account of this species—*Birds of the Northwest*, page 334—the following:

"The range of Cooper's Hawk is, in a measure, complementary to that of the Goshawk; not that the two are never found together, for such is the case in all our Northern States; but one is as decidedly southern as the other is northerly. The present species does not appear to penetrate any great distance into the British possessions, like its smaller relative, the Sharp-shinned; and I have found no indication whatever of its presence far north. It is abundant in most parts of the United States; particularly so in New England, where it is, perhaps, the most numerous of all the birds of prey. It appears to breed indifferently in all suitable places throughout its United States range; and, to judge by the well-known rule of difference in size according to latitude, it is a resident bird. Gulf-coast examples average about two and a half inches smaller than others from New England. Possessed of spirit commensurate with its physical powers, it preys upon game little if any humbler than that of our more powerful Falcons. It attacks and destroys hares, Grouse, Teal, and even the young of larger Ducks, in the state in which they are known as 'flappers,' besides capturing the usual variety of smaller birds and quadrupeds. It occasionally seizes upon reptiles, or picks up insects. In securing its prey, it gives chase openly, and dives down on its quarry with almost incredible velocity."

Gruber's Buzzard. (*Onychotes gruberi.*)

Fig. 14.

This new species was first obtained by Mr. F. Gruber, procurator of Woodward's Garden, San Francisco, California, between Vallejo and Napa cities, on May 15th, 1867. Its habits were not reported.

Band-tailed Buzzard or Hawk. (*Butco zonocercus.*)

Fig. 15.

The habitat of this Hawk is Mexico and Guatemala, extending its migrations at times into Arizona and California. Dr. Cooper was the first to meet with this species, having shot one on the 23d of February, 1862, about five miles from the coast, and thirty miles north of San Diego, California. Is was in the company of other Hawks wintering in that State, and seemed to him to be a rather sluggish and tame bird. Dr. Coues obtained a single specimen on the Gila River, and it is by him regarded as being restricted within our borders to the warm valley of the Gila and Lower Colorado.

Ferrugineous Buzzard; California Squirrel Hawk. (*Archibutco ferrugineus.*)

Fig. 16.

This is believed to be the handsomest of our hawks inhabiting Western North America. It was first described by Professor Lichtenstein, a Prussian naturalist. Dr. Coues says:

"This bird is known as the 'California Squirrel Hawk' in some localities, but it is not to be inferred that they often capture the agile aboreal *Sciuri*. The name is gained from their feeding extensively, in California, upon the 'ground squirrels' (*Spermophilus beecheyi*), which abound in many parts of that State. The Hawks are almost always, too, observed in the vicinity of the settlements of the *Spermophili*, standing on the ground where there are no trees, or flying low over the surface, in either case on the alert to seize any unlucky animal that may venture too far from home. They are also said to perch in wait at the entrance of the burrows, ready to clutch the first animal that shows his nose above ground.

"According to my observations in the West, the Ferrugineous Buzzards have no partiality for watery places, thus differing from the eastern Roughlegs. About Fort Whipple, the birds mostly resorted to the open plains and the grassy glades intervening between patches of pine-woods. They could easily be distinguished by their size and the pure whiteness of the under parts, and were beautiful objects, especially when circling overhead. They are common, especially in winter, but were apparently resident. Their cries were loudest and most frequent in the spring, resembling the syllables *ca*, *ca*, *ca*, rapidly repeated in a high key."

Gray Hawk; Mexican Hawk. (*Asturina plagiata.*)

Fig. 17.

This is another species of these beautiful Hawks that occasionally extend their migrations across the borders, from Mexico and Central America to the United States, and have been seen as far inland as the Southern part of the State of Illinois by Mr. Ridgeway, while hunting Swallow-tail and Mississippi Kites. It is said to breed in the tops of lofty trees, and to have eggs of a greenish-white color.

PLATE CXI.

California Vulture or Condor. (*Cathartes californianus.*)

Fig. 1.

The California Vulture is met with on the Pacific Coast, migrating as far east as the Sierra Nevada. Though a common bird in California, Dr. Newberry found it much more shy and difficult to shoot than its associate, the Turkey Buzzard; nor did he ever see it in such numbers or exhibit such familiarity as the smaller species which swarm, and are such efficient scavengers, in our Southern cities. Dr. Coues says:

"It was long supposed, by savans as well as by those who might not be expected to know better, that Vultures were chiefly guided to their prey by scent; a belief that probably arose from consideration of the size of their nostrils, and the very 'gamey' nature of their usual food. One of the first problems that occupied the attention of Audubon was to discover whether the birds relied mainly on sight or smell. He made a series of careful experiments, the results of which he laid before the Wernerian Society of Edinburgh, December 16, 1826, in what he called his 'maiden speech,' and has given a half-humorous account of the feelings with which he attempted, on that, to him, momentous occasion, to demolish the then existing beliefs, and establish the truth of what is now generally admitted—that Vultures are chiefly guided by their piercing eye-sight. Another absurd belief was, and perhaps still is, that Vultures prefer putrid flesh; in support of which one might point to a group of Turkey Buzzards perched upon a carcass, awaiting its decomposition. But the reason is that their beaks and claws are not strong enough to tear sound hide; they can only attack a fresh carcass at the eyes, nostrils, and vent, and when these parts are demolished must wait until putrescence is established, or until some carnivorous bird or quadruped makes an opening."

According to Dr. Townsend, in their walk they resemble a turkey strutting on the ground with great dignity; but are clumsy and awkward when they endeavor to hasten their movements, and when they attempt to rise from the ground they always hop several yards, in order to give an impetus to their heavy body.

Black Vulture; Carrion Crow. (*Cathartes atratus.*)

Fig. 2

Near the sea-coast of our tropical and warmer portions of North America, this Vulture is met with in great numbers, especially in cities, where it is a semi-domesticated bird. In places where this Vulture is a resident, it is very useful as a scavenger, and the services it renders make it a welcome visitor. At a scene witnessed by Mr. Wilson, near Charleston, where the carcass of a horse was being devoured by these birds, he noticed the ground for hundreds of yards around being black with them, counting at one time two hundred and thirty-seven, while others were in the air flying around. He saw them frequently attacking one another, fighting with their claws and striking with their open wings, fixing their claws in each other's head. They made a hissing sound with open mouths, resembling that produced by thrusting a red-hot poker into water, and occasionally a snuffling noise, as if clearing their nostrils. At times one would emerge with a large fragment, and in a moment would be surrounded by several others, who would tear it to pieces and soon cause it to disappear.

Red-headed Vulture; Turkey Buzzard. (*Cathartes aura.*)

Fig. 3.

This Vulture has an extended distribution, and is met with in most all parts of North America, more numerous in temperate sections. We copy from Dr. Coues' interesting account the following:

"Although the *Cathartidæ* are indolent, cowardly birds, they sometimes—particularly the larger kinds—when pressed for food, attack live animals, especially sick or disabled ones, and generally overpower them in the end. Young pigs and lambs are sometimes killed by the Turkey Buzzard, which is only of medium size. But, in this connection, it should be remarked that whatever damage they may thus effect is far outweighed by their good offices as scavengers, in clearing away garbage and offal. This is the true place of these foul and unseemly birds in nature's economy; they have the beauty of utility, if no other; and their usefulness is

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recognized in all warm countries, where they are encouraged in their familiarity with man, and rightly regarded as public benefactors.

"Curious ornithologists have gone so far as to try the flavor of almost every bird. Among those not ordinarily used for food, and which are comparatively unsavory, though not positively bad, may be reckoned most of the cleaner sorts of rapacious birds. Thus a young Hawk is passably good, though I believe that some such quality as that which suggested the saying, 'tough as a boiled Owl,' renders in the whole order. Crows and Ravens fall in the same category; so do most of the water-birds below the true wild fowl, such as Pelicans, Cormorants, Gannetts, Gulls, Loons, and others that feed upon fish. But Vulture-meat is certainly not to be thought of. One would think that the great Israelitic law-giver hardly had need to interdict it, as he did however: 'Of all clean birds ye shall eat. But these are they of which ye shall not eat: the Eagle, and the Ossifrage, and the Osprey, and the Glede, and the Kite, and the Vulture after his kind.' As a more modern author has remarked, 'We presume this prohibition was religiously observed, so far, at least, as it related to the Vultures, from whose flesh there arises such an unsavory odor, that we question if all the sweetening processes ever invented could render it palatable to Jew, Pagan, or Christian.' Certain it is, that independent of the passing contents of the alimentary canal, permanent fœtid, musky odors exhale from the bones and muscles; and the same stench is entangled in the web of feathers. It is retained for a long while, even after the bird is killed and stuffed. So strong is it, that one author, an excellent naturalist, too, fancied it must be rather unpleasant to the birds themselves! Thus, Pennant, speaking of the Vulture's habit of basking in the sun, with half-opened, drooping wings, supposed that this was done 'to purify their bodies, which are most unpleasantly fœtid,' as he naively remarks. It is somewhat to be wondered that, when Audubon's experiments came up, no person of an ingenious and inquiring turn advanced a theory why Vultures were deprived of the sense of smell; reasoning that if their olfactories were acute they could not bring themselves to eat carrion, and that moreover they would be continually unhappy in the noxious atmosphere emanating from their own bodies; in short, that a merciful Creator had so arranged that they might not smell themselves!"

PLATE CXII.

Dusky Seaside Finch. (*Ammodromus maritimus*, var. *nigrescens.*)

Fig. 1.

This bird is a variety of the Seaside Finch (*Ammodromus maritimus*), represented on Plate XLIX, fig. 4, page 70.

White-winged Black Tern. (*Hydrochelidon leucoptera.*)

Fig. 2.

A female specimen of this species was obtained by Thure Kumlein, in Wisconsin, July 5, 1873. It is an European bird, and this is the only one ever taken or seen in North America. The specimen was presented to the Smithsonian by Dr. T. M. Brewer.

Pike's Tern; Slender-billed Tern. (*Sterna longipennis.*)

Fig. 3.

This is a very rare bird, which is said to be met with on the coast of California.

California Black Rail; Western Little Black Rail. (*Porzana jamaicensis*, var. *coturniculus.*)

Fig. 4.

This bird is a Pacific Coast variety of the Little Black Rail (*Porzana jamaicensis*), Plate XCI, fig. 3, page 137.

Little Blue Heron. (*Ardea cærulea.*)

Fig. 5.

The Little Blue Heron is mostly confined to the South Atlantic and Gulf States, from whence it migrates south into Mexico, and north to New England, in summer.

Along the ocean and its tributary streams this bird is very abundant, as it affords them their proper food, which consists of worms, insects, and reptiles. It is active, and when occasion requires, very silent, intent, and watchful. According to Nuttall, these nocturnal and indolent birds appear to associate and breed often in the same swamps, leading toward each other, no doubt, a very harmless and independent life. Patient and timorous, though voracious in their appetites, their defense consists in seclusion, and with an appropriate instinct, they seek out the wildest and most insulated retreat in nature. The undrainable morass grown up with gigantic and gloomy forest, imperviously filled with tangled shrubs and rank herbage, abounding with disgustiug reptiles, sheltering wild beasts, and denying a foothold to the hunter, are among the chosen resorts of the sagacious Herons, whose uncouth manners, raucous voice, rank flesh, and gluttonous appetite allow them to pass quietly through the world as objects at once contemptible and useless; yet, the part which they perform in the scale of existence, in the destruction they make amongst reptiles and insects, affords no inconsiderable benefit to man.

Slender-billed Plover. (*Ægialitis microrhynchus.*)

Fig. 6.

A new species of Plover from San Francisco. It is described by Mr. Ridgeway (Am. Nat., vol. 8, page 109). Winter plumage similar to, but much more slender than the Semi-palmated Plover. Plate XL, fig. 5, page 56.

Bristle-bellied Curlew. (*Numenius femoralis.*)

Fig. 7.

A specimen of this Curlew in the Smithsonian, was taken by F. Bischoff, at Fort Renai, Alaska, May 18, 1869. It is said to be a well-known bird on the Pacific.

Green Ibis. (*Ibis thalapinus.*)

Fig. 8.

White-faced Ibis. (*Ibis guarauna.*)

Fig. 9.

These two new species of Ibises have lately been added to our North American fauna by Mr. Ridegway (Am. Nat., vol. 8, page 110), who says that the Glossy Ibis of the West Indies and the Eastern United States is absolutely indistinguishable from that of Europe. A close examination of nearly a hundred American specimens, reveals the fact that this continent has at least one, and probably two, species distinct from the Glossy Ibis. Plate XCI,

fig. 1, page 136. The Green Ibis is met with on the Pacific Coast of America from California to Chili. The Whitefaced, in the whole of tropical America, and middle province of United States; from Chili and Buenos Ayres to the Columbia river.

Black Skimmer; Cut-water. (*Rhynchops nigra.*)

Fig. 10.

Dr. Coues once saw a single specimen of this bird on the Potomac river, near Washington. Otherwise, his personal observations were confined, up to the present time, to the coast of North Carolina, where the birds are plentiful. There he noticed them late in the summer and during the autumn. In September they become plentiful, and so continue until the latter part of November, some doubtless remaining later. In examining large numbers of specimens, he found a great difference in size, and particularly in the bill. Some individuals are fully a third heavier than others. The bill varies over an inch in length, and especially in the length of the under mandible. Sometimes the difference between the two mandibles is hardly a third of an inch, at others over an inch. The oblique striæ on the under one are sometimes obsolete. In high condition, the bill is bright red (vermilion) and black; otherwise, orange and black, or even mostly dusky, only yellowish at base. The young in the fall are curiously variegated with dusky and whitish above, few specimens being exactly alike. The note of this species is instantly distinguished from that of any of our other species of this family by its deep guttural intonation, more like the croaking of some Herons than the cries of the Gulls and Terns. The bird also differs from its allies in going in true flocks, as distinguished from the gatherings, however large, in community of interest, that occur with the Gulls and Terns. The birds move synchronously, which is not the case with any of the others.

They feed chiefly by night, or at any rate in the dusk of the evening, at which time, in passing over the harbor, one may hear their hoarse notes on every hand, and see the birds gliding swiftly along just over the water, either singly or in small flocks. During the daytime, when the Gulls and Terns are busy fishing, the Skimmers are generally seen reposing on the sandbars. They never drop on their prey on the wing, like their allies. Their mode of feeding is not exactly made out, but it is believed they skim over the surface with the body inclined downward, the bill open, and the under mandible in the water, so they really take their prey in a manner analogous to the feeding of whales.

Missouri Piping Plover. (*Ægialitis melodus*, var. *circumcinctus.*)

Fig. 11.

This variety is a resident on the plains between the Missouri River and the Rocky Mountains. Its habits are supposed to be similar to the typical bird, represented on Plate XL, fig. 4, page 56.

Bridled Tern. (*Sterna anæstheta.*)

Fig. 12.

The Bridled Tern is met with in the warmer portions of North America. Habits supposed to be similar to other members of this family.

Florida Heron. (*Ardea courdemanuii.*)

Fig. 13.

This species is considered the handsomest of all our American Herons. It is met with in Southern Florida, and is very similar, in appearance and habits, to the Great Blue Heron, represented on Plate LXXX, fig. 1, page 124.

White-tailed, or White-rumped Godwit. (*Limosa uropygialis.*)

Fig. 14.

This is an European species, met with at Alaska. It is usually met with near the muddy banks of rivers or of sea-inlets, or wherever there is found a rich supply of worms, molluscs, and aquatic animals, upon which they subsist. Their movements on the wing are very powerful.

Reddish Egret; Peale's Egret; Heron. (*Ardea rufa.*)

Fig. 15.

This bird is very closely allied to the European Heron. It was first obtained by Mr. Titian Peale, in Florida. It is an abundant maritime species along the Gulf States.

European Woodcock. (*Scolopax rusticola.*)

Fig. 16.

This bird, which is evidently a stranger to this country, from Europe, where it has an extended range, has been met with in Rhode Island and New Jersey. Upon the ground, this Woodcock is not considered an expert. It walks slowly, with a roundabout, tripping step, and never ventures any distance on foot. During the day, it remains comparatively quiet; but toward evening it exhibits activity and briskness. It is very shy, and prefers shady and retired situations. The call of the male consists of a humming note; the female utters a piping cry. Its food consists of insects, worms, and larvæ.

Purple Gallinule. (*Porphyrio martinica.*)

Fig. 17.

This is a beautiful bird that is often met with along the coasts of the South Atlantic and Gulf States, and is casually met with as far north as the New England States. Its habits are very similar to the Florida Gallinule, represented on Plate XLII, page 58.

Green-shank. (*Glottis chloropus.*)

Fig. 18.

An European bird, of which a straggler was obtained by Audubon, in Florida, which is the only reason for its appearing as a North American species.

Western Semi-palmated Sandpiper. (*Ereunetes puslus*, var. *occidentalis.*)

Fig. 19.

A Pacific coast variety of the typical bird, represented on Plate XI, fig. 2, page 12.

Thick-billed Sandpiper. (*Fringa crassirostris.*)

Fig. 20.

According to Mr. Dale (Am. Nat., vol. 7, 634), a specimen of this species was obtained in the Aleutian Islands, with an incomplete set of eggs. He says it is a species hitherto known only from Eastern China, and Japan.

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PLATE CXIII.

Hawk Owl; Day Owl. (*Surnia ulula*, var. *hudsonia.*)

Fig. 1.

This Owl is an inhabitant of the northern portions of North America. Unlike many other Owls, it retires to rest at night. It was often seen by Mr. Dresser, in New Brunswick, hawking after prey in the strongest sunshine, or seated quietly blinking on the top of an old blasted tree, apparently undisturbed by the glare of the sun. Its food consists mostly of small birds, field mice, grasshoppers and other insects. Its nest is usually found in the hollows of trees; it is also found on the branches, constructed of feathers, grass, and sticks.

Richardson's Owl; American Sparrow Owl; Tengmalm's Owl. (*Nyctale tengmalmi*, var. *richardsonii.*)

Fig. 2.

This Owl is an inhabitant of the northern parts of North America, and in winter it extends its migrations regularly to our frontier regions. According to Coues, "It had been at first considered the same as its European representative, and afterward held to be a distinct species, this interesting Owl has at length settled into its true position as a geographical race of *N. tengmalmi* of Europe, as ascertained by Mr. Ridgeway's studies. It differs from its congener, just as the American Hawk Owl does, in an excess of darker colors; the legs being ochrey-brown, much variegated with darker, instead of white, with little marking; and there is more dark color on the crissum. It is, perhaps, the most decidedly boreal of our species of the family; for although it does not range further north than some, such as the Hawk Owl, the Snowy, and the Great Gray Owl, its southern limit is more restricted. It has never been observed as far south as all of the three just mentioned are known to range in winter." This species is confined to wooded regions, and its food consists of insects, mice, and small birds. The eggs are like those of other Owls.

American Long-eared Owl. (*Otus vulgaris*, var. *wilsonianus.*)

Fig. 3.

This is a common species met with throughout temperate North America. According to Mr. Gentry, it is quite common in Eastern Pennsylvania throughout the year. It is more retiring in its nature than *Nyctale acadica*, Plate CX, fig. 7, page 166. The latter prefers an orchard, in close proximity to man; while the former, according to his experience, evinces by its actions a partiality for deep forests of evergreens, where the hum and stir of busy farm-life is nearly unknown. The nests are usually constructed of rude sticks, sometimes of boughs with the leaves adherent thereto, externally, and generally, but not always, lined with the feathers of birds. The same nest is made use of for several successive years. The female begins to lay early in April, and sometimes produces two broods in a season. The eggs are never more than four in number; sometimes as low as two have been observed. It is stated by both Audubon and Wilson, that the nests of other birds, when of sufficient size, are generally used in which to rear its young. Although it has not been his fortune to know of such a case by personal experience, yet he can not doubt the observations of these learned authorities. One of the best authenticated cases is that related by Wilson, where one of these Owls had taken possession, forcibly, as he is led to infer, of the nest of the Qua-bird (Night Heron), and was actually setting. Within three-quarters of a mile of Chestnut Hill (upper part of Germantown), existed an immense forest of pines, within a comparatively recent period, which was the great place of rendezvous of the Long-eared Owl, during the dreary winter months, and where, in springtime, the females deposited their eggs in rude and unsightly nests of their own construction. The number that thronged this thicket of pines was prodigious, so there were very few of the trees, if any, that had not supported one or more nests. The many fragments of the bones of mammals and birds, and the other remains of the same that laid in piles upon the ground, bore testimony of the wholesale destruction of life that was carried on.

Great Gray Owl; Cinereous Owl. (*Syrnium cinereum.*)

Fig. 4.

An Arctic American bird that, in winter, extends its migrations into the northern parts of the United States. It is considered the largest of our Owls. Mr. Richardson met with this Owl in the fur regions, where he noticed that it inhabited all the wooded districts which lie between Lake Superior and latitude 67° and 68°, and between Hudson's Bay and the Pacific. He observed it to keep constantly within the woods, and not to frequent the barren grounds, in the manner of the Snow Owl, nor was it as often met with in daylight as the Hawk Owl, apparently preferring to hunt when the sun was low, and the recesses of the woods deeply shadowed, when the hares and other smaller quadrupeds, upon which it chiefly feeds, were most abundant.

Arctic or Western Horned Owl. (*Bubo virginianus*, var. *arcticus.*)

Fig. 5.

A variety generally distributed through the wooded regions from the Arctic districts to the table-lands of Mexico. Its habits are very similar to the typical bird, represented on Plate V, fig. 1, page 5.

Feilner's Owl; Flammulated Owl. (*Scops flammeola.*)

Fig. 6.

This is a small Owl, met with in Mexico and Central America, usually seen among the mountains of Mexico, thence northward to California. A specimen of this bird was obtained by Captain John Feilner, at Fort Crook. Its habits are supposed to be similar to the Mottled Owl, represented on Plate LXXXI, fig. 2, page 125. Its form and general appearance are also similar.

Western Barred Owl; Spotted Owl. (*Syrnium occidentale.*)

Fig. 7.

One specimen of this bird was taken at Fort Tejon, California. There is nothing recorded as regards its habits.

Pacific Horned Owl. (*Bubo virginianus*, var. *pacificus.*)

Fig. 8.

This bird is a Pacific Coast variety of our common Great Horned Owl, represented on Plate V, fig. 1, page 5.

PLATE CXIV.

Black-headed Finch. (*Phonipara zena.*)

Fig. 1.

A single female specimen of this little Finch was obtained in Florida, by Mr. Henshaw, in company with Mr. Maynard. There

is no other record of any other specimens of this bird being obtained.

Mexican, or Black Goldfinch. (*Chrysomitris psaltria*, var. *mexicana.*)

Fig. 2.

This bird is the Mexican variety of the typical bird, represented on Plate LXXXVII, fig. 1, page 130.

Arizona Goldfinch. (*Chrysomitris psaltria*, var. *arizonæ.*)

Fig. 3.

A variety of the typical bird, represented on Plate LXXXVII, fig. 1, page 130, that is met with as an abundant summer resident of Arizona.

Dwarf Cowbird. (*Molothrus pecoris*, var. *obscurus.*)

Fig. 4.

A variety of the typical species, represented on Plate LII, fig. 7, page 78, that is occasionally met with at Cape St. Lucas, Southern Arizona, and southward.

Cassin's Bullfinch. (*Pyrrhula cassinii.*)

Fig. 5.

A new and rare species; but one specimen known, and it was obtained by Mr. Dall, near Nulato, Alaska, January 10, 1867. It was the first he ever met with, nor had any of the Russian residents met with it.

Cooper's Tanager. (*Pyranga æstiva*, var. *cooperi.*)

Fig. 6.

A geographical variety of the typical bird, represented on Plate LXXII, fig. 7, page 109, met with in the Colorado and Upper Rio Grande region.

Scott's Oriole. (*Icterus parisorum.*)

Fig. 7.

This Oriole is an inhabitant at Cape St. Lucas and southward. It is said to have secluded habits, and that its song consists of three or four notes, both rich and melodious.

Berlandier's Wren. (*Thryothorus ludovicianus*, var. *berlandieri.*)

Fig. 8.

A Valley of the Rio Grande variety of the typical species, represented on Plate LII, fig. 8, page 78.

Kennicott's Sylvia; Alaska Willow Warbler. (*Phyllopneuste borealis.*)

Fig. 9.

A rare bird, that is occasionally met with in Alaska.

Golden, or Yellow-cheeked Warbler. (*Dendroica chrysopareia.*)

Fig. 10.

Arizona and New Mexico are supposed to be the habitat of this rare species, which was originally described by Mr. Salvin, from a single specimen obtained in Guatemala.

Kirtland's Warbler. (*Dendroica kirtlandii.*)

Fig. 11.

This bird is one of the rarest of our North American species. The first specimen was obtained by the well-known naturalist of Cleveland, Ohio, Professor Jared P. Kirtland, in May, 1851. It was shot by him in the forests near the city. July 9, 1860, another specimen was obtained near the same city, and which is in the collection of one of its residents, R. K. Winslow, Esq. Dr. Samuel Cabot, Jr., obtained a specimen at sea, between the Islands of Cuba and Abaco.

Lucy's Warbler. (*Helminthophaga luciæ.*)

Fig. 12.

A rare and recently-discovered species, which was first obtained by Dr. Cooper, near Fort Mehan. Dr. Coues met with three of these birds at Fort Whipple, and he says that it shows a decided preference for thickets and copses, rather than for high, open woods, and is, also, an exceedingly shy and retiring species.

Grace's Warbler; Arizona Warbler. (*Dendroica graciæ.*)

Fig. 13.

This warbler was first discovered by Dr. Coues, among the pine woods covering the summit of Whipple's Pass, of the Rocky Mountains, July 2, 1864. He found it occupying, almost exclusively, the tallest trees of the pine woods, and noticed that it was active, industrious, and noisy, and that it was possessed of very marked fly-catching habits. Its true song consists of two or three loud, sweet whistles, followed by several continuous notes, resembling *chir-r-r*, in a wiry but clear tone.

Green Finch; Texas Sparrow. (*Embernagra rufivirgata.*)

Fig. 14.

The Valley of the Rio Grand is the habitat of this bird.

White-eyed Chewink, or Towhee—Florida Chewink.

(*Pipilo erythropthalmus*, var. *alleni.*)

Fig. 15.

A Florida variety of the typical species, represented on Plate LVI, fig. 8, page 83. It was obtained in that State, by Mr. Maynard, in the spring of 1869.

Maynard's Sparrow; Ipswich Sparrow. (*Passerculus princeps.*)

Fig. 16.

A specimen of this rare bird was obtained. by Mr. Maynard, in the vicinity of Ipswich, Massachusetts, in 1868. He found it among the sand-hills near the sea-shore. He has since taken more specimens of the same species of the same bird at the same place. When alarmed, its note consists of a sharp chirp.

Florida Grakle. (*Quiscalus purpureus*, var. *aglaeus.*)

Fig. 17.

This variety of the typical bird, represented on Plate LII, fig. 5, page 77, is confined, so far as known, to the peninsula of Florida.

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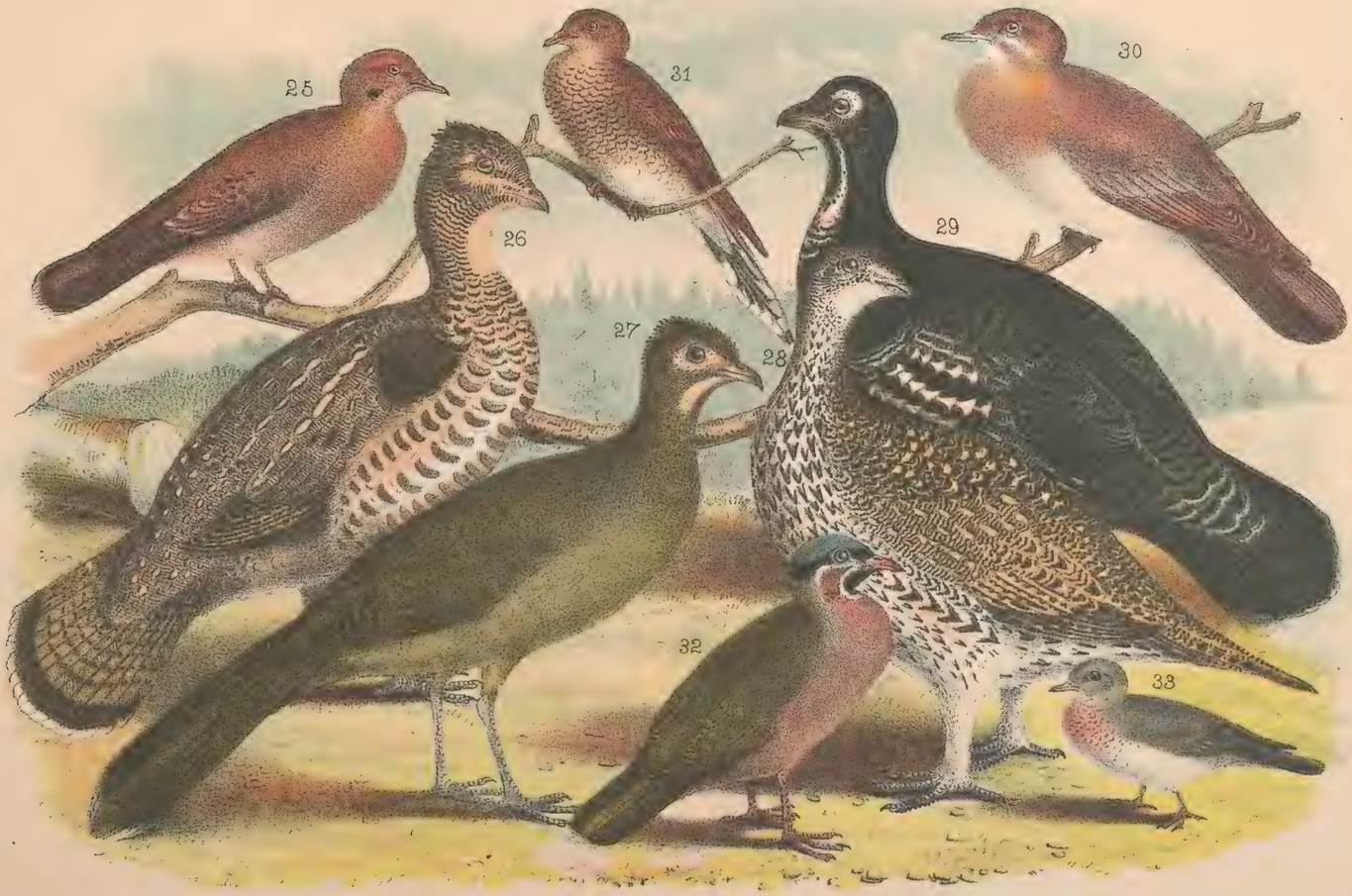
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Townsend's Fly-catching Thrush, or Solitair. (*Myiadestes townsendii.*)

Fig. 18.

Dr. J. S. Newberry has given a very interesting account of this bird. Noticing its occurrence is the Des Chutes Basin, he continues: "It does not inhabit dense forests, nor prairies entirely destitute of trees, but chooses surfaces covered with a scattered growth of pine and cedar. We first met with it in the canon of Mptolyas River, at the base of Mt. Jefferson. As we picked our way with infinite difficulty down the side of this gorge, my attention was attracted by the delightful song of, to me, a new bird, of which a few were sitting in the pines and cedars which, by a precarious tenure, held a footing on the craggy face of the cliff. The song, so clear, full, and melodious, seemed that of a *Mimus;* of the bird I could not see enough to judge of its affinities. The next day we followed down the river in the bottom of the canon; all day the deep gorge was filled with a chorus of sweet sounds from hundreds and thousands of these birds, which, from their monotonous color, and their habit of sitting on the branch of a tree projecting into the void above the stream, or hanging from some beetling crag, and flying out in narrow circles after insects, precisely in the manner of Flycatchers, I was disposed to associate with them. Two days afterward, in the canon of Psucseeque Creek, of which the terraced banks were sparsely set with low trees of the western cedar, I found these birds numerous, and had every opportunity of hearing and seeing them, watching them for hours while feeding and singing, and procuring specimens of both male and female. With the first dawn of day they began their songs, and at sunrise the valley was vocal with their notes. Never, anywhere, have I heard a more delightful chorus of bird-music. Their song is not greatly varied, but all the notes are particularly clear and sweet, and the stream of pure gushing melody is as spontaneous and inspiring as that of the Song Sparrow."

Mountain Mocking-bird, or Mocker; Sage Thrasher. (*Oreossoptes montanus.*)

Fig. 19.

This splendid singer makes his home in the Rocky Mountain regions of the United States. Mr. Ridgeway carefully observed the habits of this species and says, that it is a bird peculiar to the artemisia wastes of the Great Basin, being a characteristic species of the region between the Sierra Nevada and the Rocky Mountains. It is exclusively an inhabitant of the "sage brush," and is partial to the lower portions of the country, though it is not unfrequent on the open slope of the mountains. A more unappropriate term than "Mountain Mocking-Bird" could hardly have been chosen for this species, as its predilection for the valleys, and the fact that its song is entirely its own will show. In his opinion the term Sage Thrasher would be more appropriate. When singing the birds were generally seen sitting upon the summit of a "sage" bush, faintly warbling, in the course of the song turning the head from side to side in a watchful manner. Upon being approached, they would dart downward, seemingly diving into the bush upon which they had been perched, but upon a close search the bird could not be found, until it was heard again singing a hundred yards or more in the direction from which I had approached. When the pairing season was at hand, the songs of the males become greatly improved, increasing in sweetness and vivacity, and full of rapturous emotion; their manners also became changed, for they have lost all their wariness.

Hermit Thrush; Rocky Mountain Hermit Thrush; Audubon's Thrush. (*Turdus pallasi*, var. *auduboni.*)

Fig. 20.

This bird is a Rocky Mountain variety of the typical species, represented on Plate XXXVI, fig. 5, page 48.

Cape St. Lucas Robin. (*Turdus migratorius*, var. *confinis.*)

Fig. 21.

A Cape St. Lucas variety of the typical bird, represented on Plate LXVII, fig. 4, page 97.

Wilson's Thrush; Tawny Thrush; Veery. (*Turdus fuscesceus.*)

Fig. 22.

Wilson's Thrush is our Eastern North American species, passing its winters in Florida and the West Indies, Central and South America. According to Maynard, its note is uttered at irregular intervals, sometimes loud, sometimes soft, and even changing in the direction from which it comes. According to Ridgeway it is timid, distrustful and retiring; delighting in shady ravines, the edges of thick close woods, and occasionally the more retired parts of gardens; where if unmolested, it will frequent the same locality year after year. Their song consists of an inexpressibly delicate metallic utterance of the syllables *ta-weel' ah, ta-weel' ah, tuil' ah, tuil' ah*, accompanied by a firm trill which renders it truly seductive.

Oregon Thrush. (*Turdus swainsoni*, var. *ustulatus.*)

Fig. 23.

This bird is a Pacific Coast variety of the typical species, figure 24, of this Plate.

Swainson's Thrush; Olive-backed Thrush; Swamp Robin. (*Turdus swainsoni.*)

Fig. 24.

This species is met with over nearly the whole of North America, and during the migrating time, which is usually in April and October, it is very abundant. Like other members of its family, it is a good singer, resembling that of the Wood Thrush. According to Ridgeway, its song of lamentation, when robbed of its young, is full of indescribable pathos and beauty, haunting one who has overheard it long after. The nest is usually placed in a low tree or bush, and the eggs are blue, with numerous reddish spots.

Zenaida Dove. (*Zenaida amabilis.*)

Fig. 25.

This rare species was obtained by Audubon, on the Florida Keys, where it was a transient visitor. They are said by him to have the habits of the Ground Dove. Their flight resembles them, and is seldom higher than the tops of the mangroves, and never to any considerable distance, except during their migrations. Though they alight on trees with ease, and can walk well among their branches, they spend the greater portion of their time on the ground, and walk well there, walking or running in search of food with lightness and celerity, and invariably roost on the ground.

Mountain Partridge; Gray's Ruffled Grouse. (*Bonasa umbellus*, var. *umbelloides.*)

Fig. 26.

This bird is a Rocky Mountain variety of the typical species, represented on Plate LXXVIII, fig. 1, page 120.

Texan Guan; Chiacalaca. (*Ortalida vetula.*)

Fig. 27.

A species inhabiting the Valley of the Rio Grande, thence southward. It is common near Matamoras and Brownsville, where it is exposed for sale and held in high esteem by the Mexicans on account of its good fighting qualities. According to Colonel McCall, it was abundant for miles along the Lower Rio Grande, and throughout this region the remarkable and sonorous cry of the male bird could not fail to attract and fix the attention of the most obtuse or listless wanderer, who might chance to approach its abode. He also states that the eye is a remarkable feature in the living birds of this species, being full of courage and animation, equal, in fact, in brilliancy, to that of the finest game-cock. He frequently noticed this bird domesticated by the Mexicans at Matamoras, Monterey, etc., and going at large about their gardens. He was assured that in that condition it was not unfrequently crossed with the common fowl.

Southern Sharp-tailed Grouse; Columbia, or Common Sharp-tailed Grouse. (*Pedioecetes phasianellus* var. *columbianus.*)

Fig. 28.

Of the two varieties of Sharp-tailed Grouse found in North America this is the Southern or Western variety. The Northern is represented on Plate XCVI, fig. 3, page 143. The present bird is met with on the prairies of the Western States, and, according to Dr. Newberry, it is said to lie close, and when flushed to fly off, uttering a constantly repeated *kurk-kurk-kurk*, moving with steadiness and considerable swiftness. It is, however, easily killed. The young birds are fat and tender, and as they fall on the grassy prairie scatter their feathers, as if torn to pieces. For delicacy of flavor its flesh is unequaled. Its combination of colors makes it resemble the ground, on which it lives, requiring a keen and practiced eye to distinguish them when they have fallen. It also protects them from the hawks and owls. The food consists of berries, insects, grass-seeds, etc.

Franklin's Grouse, or Spruce Grouse. (*Tetrao canadensis*, var. *franklini.*)

Fig. 29.

This variety of the typical species, represented on Plate XCVI, fig. 1, page 142, is met with from the Rocky Mountains to the Pacific, and from Oregon to high northern latitudes.

Key West Dove, or Pigeon. (*Geotrygon martinica.*)

Fig. 30.

Audubon met with this rare species at the island of Key West, which, so far as known, is restricted to that section. He describes its flight as low, swift, and protracted, as he saw them passing between Cuba and Key West. They usually move in loose flocks of from six to a dozen, and so very low as to almost touch the surface. Their coo is not so soft nor so prolonged as that of the Common Dove, and may be represented by the syllables *whoe-whoe-oh-oh-oh.* When suddenly approached, they utter a guttural, gasping sound. They usually alight on the low branches of shrubby trees, and delight in the neighborhood of shady ponds.

Scaly Dove; Long-tailed Ground Dove. (*Scardafella inca.*)

Fig. 31.

Lieutenant Couch obtained a specimen of this species in the State of New Leon, Mexico, April 18, 1853. It is supposed to be a resident of the Rio Grande Valley, south to Guatemala. It is said by Mr. Taylor to be very common in Honduras, where he generally saw it in pairs. He also found it good eating.

Blue-headed Pigeon, or Ground Dove. (*Starnænas cyanocephala.*)

Fig. 32.

This beautiful bird is a resident of the West India Islands and Florida Keys. Mr. Audubon saw a pair near the water, picking gravel, but they would not suffer a near approach. They usually live in the most tangled thickets, and feed well on cracked corn or rice.

Ground Dove. (*Chamæpelia passerina.*)

Fig. 33.

This is a small and delicate little species, of the South Atlantic and Gulf Coasts. In Jamaica, according to Mr. March, the Ground Dove sometimes perches, and always roosts, on low trees, but is otherwise generally found in pairs, feeding on the ground on small grain and seeds. Several pairs may be seen feeding together; but they do not associate. It is said to be very tame, and to be found about homesteads and in streets and roads. It also breeds in low trees; the carchew and the dogwood seeming to be preferred. It is very rarely kept as a cage-bird, as its note is a plaintive, mournful coo, and there is a creole superstition that misfortune will happen to any one so treating it. The nest is slightly made of twigs, lined with grass, and built in a fork or hollow. The eggs are two, of a rounded oval, white, eighty-seven hundredths of an inch by sixty-nine. Mr. Audubon describes the flight of this Dove as low, easy, and accompanied by a whistling sound, produced by the action of the wings when the bird is surprised and forced to fly.

PLATE CXV.

Common Wild Turkey; Mexican Turkey. (*Meleagris gallopavo.*)

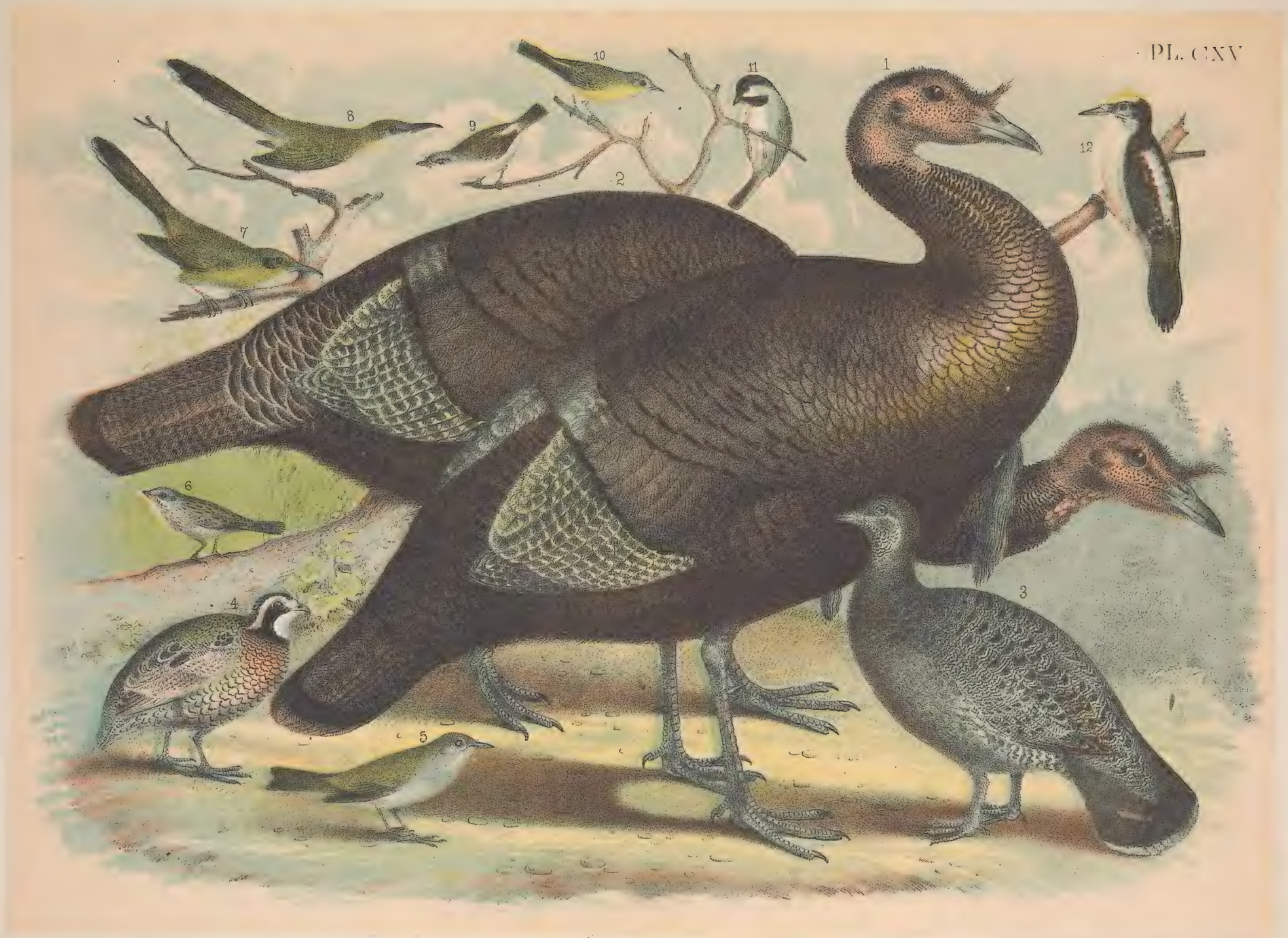
Fig. 1.

It is generally supposed that to this rare bird we are indebted for the introduction of our common domestic Turkey, so popular with the denizens of North America, on account of its surpassing excellence for the table. It is met with in the southern portions of the Middle Province, Texas, New Mexico, Arizona, and southward along the table-lands of Mexico.

(*Meleagris gallopavo*, var. *americana.*)

Fig. 2.

This bird is a variety of the last-named, and is met with in Eastern North America, north to Canada, and in the West along the timbered river valleys, toward the Rocky Mountains, thence south to the Gulf Coast, Mr. Dresser found the Wild Turkey common in all the portions of Texas and Mexico that he visited, and particularly so on the rivers between San Antonio and the Rio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Grande. He says it proved to be wary and difficult to approach in the daytime; but by watching to see where they roosted, and visiting them by moonlight, one or two could generally be secured. They generally preferred roosting in high cottonwood trees, on the banks of a stream, perching as high up as possible. He once saw eleven Turkeys on one large bough of a cottonwood tree, on the Medina. When the pecan-nuts are ripe, the Turkeys become very fat, as they are extremely fond of these nuts, which are very oily. One very plump bird was found, after it had been dressed, to weigh sixteen pounds. The Mexicans on the Upper Rio Grande sometimes domesticate the Wild Turkey. Mr. Dresser saw two that had been caught when quite young, that became very tame.

The food of Turkeys consists of pecan-nuts, wild grapes, grass, various kinds of plants, corn and other grain; also, fruit, seeds, beetles, small lizards, tadpoles, etc.

Dusky Grouse; Gray Grouse; Blue Grouse; Pine Grouse; Spruce Partridge. (*Tetrao obscurus.*)

Fig. 3.

Mr. Trippe gives the following interesting account of this species:

"The 'Gray Grouse,' as this species is universally called, is a rather common bird throughout the mountains, from the foot-hills up to timber-line, and, during summer, wanders at times above the woods as high as the summit of the range. Excepting for a brief period in August and September, it rarely approaches the vicinity of clearings, frequenting the dense pine forests, and showing a preference for the tops of rocky and inaccessible mountains. In its nature, in short, it is the exact counterpart of the Ruffed Grouse, having the same roving, restless disposition; living upon the same diet of buds and berries; frequenting the same rugged, craggy mountain haunts; and, like that bird, is more or less solitary in its habits, and constantly moving from place to place on foot. Its food consists principally of the leaves and berries of various species of *Ericacæ*, which abound in all its haunts. It is also very fond of grasshoppers and all kinds of insects, and, while the snow lies deep upon the ground, lives for the most part upon the buds and tender leaves of the pines. When the grain is cut in the valleys, the Grouse are frequently to be found, in the stubble-fields and adjacent coverts, in small flocks of three or four up to eight or ten. They are then so tame as to be easily approached and killed, but later in the season become somewhat wilder, though never very shy. They never gather in large flocks, like the Pinnated and Sharp-tailed Grouse, more than a single family being rarely found together. The brood separate as soon as they are well grown, and, from the middle or close of autumn until the succeeding pairing season, the Gray Grouse is usually found alone. On being suddenly startled, this bird takes wing with great rapidity, sometimes uttering a loud crackling note, very much like that of the Prairie Hen on similar occasions, frequently alighting on the lower limb of a tree after flying a little way, and watching the intruder with out-stretched neck. Sometimes they will fly up to the top of a tall pine and remain hidden in the thick foliage for a long time; nor will they move or betray their position, although sticks and stones are thrown into the tree, or even a shot fired. Late in summer many of them ascend to the upper woods to feed upon the multitude of grasshoppers that swarm there in August and September, in the pursuit of which they wander above timber-line, and may sometimes be met with in great numbers among the copses of willows and juniper that lie above the forests.

"The flight of the Gray Grouse is rapid and powerful. Its flesh is white and tender, resembling that of the Ruffed Grouse. In all respects it seems to fill the same place in the mountain fauna of Colorado that is occupied by the latter bird among the mountains of New England and the Middle States."

Texas Quail. (*Ortyx virginianus*, var. *texanus.*)

Fig. 4.

This bird is a Southern Texas and Valley of the Rio Grande variety of the typical species, represented on Plate XXVII, page 28.

Alice's Thrush; Gray-cheeked Thrush. (*Turdus swainsoni*, var. *aliciæ.*)

Fig. 5.

This is a variety of the typical species, represented on Plate CXIV, fig. 24, page 173. Its distribution or habitat is about the same.

Henslow's Bunting. (*Coturniculus henslowi.*)

Fig. 6.

The distribution of this Bunting is eastward to Massachusetts, and westward to the Loup Fork of Platte. In Florida, Audubon met with it in winter, they were in great numbers in all the pine barrens of that state; in light and sandy soil, and in woods but thinly overgrown by tall pines. They never alight on trees, but spend their time on the ground, running with great rapidity through the grass, in the manner of a mouse. Mr. Maynard describes their song-note as like the syllables *see-wick*, the first syllable prolonged, the latter given quickly.

Mangrove Cuckoo. (*Coccyzus seniculus.*)

Fig. 7.

Mr. Nuttall was the first of our naturalists to include this species among our North American birds. He mentions it as an inhabitant chiefly of Cayenne, and as an occasional visitor to the more Southern States. Mr. Audubon only obtained specimens of it in Florida and Key West. He says it is a regular summer visitor to those places.

Black-billed Cuckoo. (*Coccyzus erythrophthalmus.*)

Fig. 8.

This bird is common to most all parts of North America, and is generally accompanied by its relative, the Yellow-billed Cuckoo, represented on Plate XXVIII, fig. 1, page 30. These birds are often confounded by persons who have not become familiar with them. Its habits are much like the last named.

Brotherly-love Vireo; Philadelphia Greenlet. (*Vireo philadelphicus.*)

Fig. 9.

This rare bird was discovered by Cassin, in September, 1851, near Philadelphia. It was in the upper branches of a high tree, in a woods, capturing insects, supposed to be resting while on its southern migration.

Nashville Warbler. (*Helminthophaga ruficapilla.*)

Fig. 10.

In 1811, Wilson met with this bird near Nashville, Tennessee. It is a common bird of Eastern North America. Mr. Allen met it at Springfield, Massachusetts, and says it is abundant in May and in the early part of autumn. Arrives May 1st to 5th, and for two or three weeks is a common inhabitant of the orchards and gardens, actively gleaning insects among the unfolding leaves and

blossoms of the fruit trees. Nearly all go north; but a few retire to the woods to breed. Its song so much resembles that of the Chestnut-sided Warbler that it might readily be mistaken for it. To this cause, he thinks, and to the difficulty of seeing such small birds in the dense summer foliage, is doubtless owing the fact of its being so commonly overlooked by naturalists during the summer months, rather than to its [supposed] rarity in that latitude at that season.

Long-tailed Chickadee. (*Parus atricapillus*, var. *septentrioralis.*)

Fig. 11.

This bird is a western variety of the typical species, represented on Plate XXXII, fig. 4, page 42, and is met with in the Missouri and Rocky Mountain regions.

Banded, or White-backed, Three-toed Woodpecker. (*Picoides americanus*, var. *dorsalis.*)

Fig. 12.

A Rocky Mountain variety of the typical species, represented on Plate LIII, fig. 2, page 79.

PLATE CXVI.

Ivory Gull. (*Larus eburneus.*

Fig. 1.

American Mew Gull. (*Larus canus*, var. *brachyrhynchus.*)

Fig. 2.

California Gull. (*Larus delawarensis*, var. *californicus.*)

Fig. 3.

Ring-billed Gull. (*Larus delawarensis.*)

Fig. 4.

Glaucous-winged Gull. (*Larus glaucesceus.*)

Fig. 5.

White-winged Gull. (*Larus leucopterus.*)

Fig. 6.

Glaucous; Ice Gull; Burgomaster. (*Larus glaucus.*)

Fig. 7.

Franklin's Rosy Gull. (*Larus franklini.*)

Fig. 12.

Short-billed Gull; Red-legged Kittiwake. (*Larus brevirostris.*)

Fig. 13.

Pacific Kittiwake Gull. (*Larus tridactylus*, var. *kotzebuei.*)

Fig. 14.

Gulls are in the strictest sense all sea birds, and only occasionally wander inland, breeding in northern latitudes among the various cliffs and rocks. According to Dr. Brehm, Fishing Gulls walk well, wade readily in the shallow water near the shore, swim lightly and buoyantly upon a rough sea, and often sleep upon the water. Their flight is slow, but by no means heavy, and can be sustained for a considerable time. With long strokes of their wings, they sweep onward through the air, sometimes flying in circles, sometimes mounting upward against the wind, and again descend to the surface of the sea. In their flights, they appear to be quite at their ease, even during the wildest storms, and may frequently be seen plunging into the sea from a considerable height upon any prey that they may happen to espy. In sagacity and courage the Gulls are superior to their kindred; but they likewise surpass them in thieving and gluttony. They care little for the society of their brethren; nevertheless, it is a rare thing to see one of them alone. These Gulls subsist principally on fishes of various size, and regard carrion, whether of fish or flesh, as very delectable food. They also kill and devour small quadrupeds and young or disabled birds. They rob the feebler sea-fowl of their eggs, and search upon the beach for worms and other animals. Should the shell of a crab or mussel be too hard for their beak, they at once fly with it into the air, and then dropping it from a sufficient elevation upon the rocks beneath, shatter it to pieces.

The Ivory Gull (fig. 1) is a resident of the Arctic Seas, migrating southward in winter.

The American Mew Gull (fig. 2) is a variety of the European type, and is a resident of the interior of Arctic America and the Pacific Coast.

The California Gull (fig. 3). An abundant bird, inhabiting the interior of Arctic America and the Pacific Coast of North America.

The Ring-billed Gull (fig. 4) is an inhabitant along the larger waters throughout the interior, as well as the coasts of North America.

The Glaucous-winged Gull (fig. 5) is met with on the Pacific Coast of North America.

The White-winged Gull (fig. 6) is met on the Northern and Arctic Seas, extending its migrations south in winter, on the Pacific Coast of North America, as far as to Long Island.

The Ice Gull (fig. 7) has the same habitat as the last named.

The Franklin Rosy Gull (fig. 12). An abundant interior species that is met with in the high latitudes of North America, and extends its migrations in winter to Central and South America, Mexico, and part of the West Indies.

The Short-billed Gull (fig. 13) is an abundant species of the North Pacific Coast.

The Pacific Kittiwake Gull (fig. 14) has the same habitat as the last named.

White-bellied Petrel; Black and White Stormy Petrel. (*Fregetta grallaria.*)

Fig. 8.

There is but one instance of the taking of a specimen of this species, and that was obtained on the Florida Coast. The habits of this Petrel are about the same as those described on page 160.

Pacific Black-throated Diver. (*Colymbus arcticus*, var. *pacificus.*)

Fig. 9.

This variety of the typical species, represented on Plate CVI, fig. 10, page 160, is a very common bird on the coast of California in winter.

Noddy Tern. (*Anous stolidus.*)

Fig. 10.

This is a very common species of the South Atlantic and Pacific Coasts. It passes its time mostly far out at sea, flying near the

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water, and are often seen taking up small fish. Nuttall says, they frequently fly on board of ships at sea, and are so stupid or indolent, on such occasions, as to suffer themselves to be taken by the hand from the yards on which they settle; they sometimes, however, when seized, bite and scratch with great resolution, leading one to imagine that they are disabled often from flight by excessive fatigue or hunger. The nest is built in bushes or low trees, and they breed in great numbers.

Arctic Tern. (*Sternamacroura.*)

Fig. 11.

This species is a general inhabitant of the coasts of North America, extending its migration south to the Middle States, and on the Pacific side to California. Its habits are very similar to the Great or Common Tern, represented on Plate XI, fig. 3, page 12.

Horned Wary Ross' Goose. (*Anser rossii.*)

Fig. 15.

This species is a resident of Arctic America, migrating in winter as far south as San Francisco, where it has been obtained.

Lesser Snow Goose. (*Anser hyperboreus*, var. *albatus.*)

Fig. 16.

This bird is a variety of the typical species of Snow Goose, represented on Plate LXXIV, fig. 4, page 113. It is distributed over the greater part of North America, principally southwest.

Pomerine Jæger, or Skua. (*Stercorarius pomatorhinus.*)

Fig. 17.

This bird, like most all the others of its family, principally inhabits the Arctic Seas and coasts of both continents. Its food consists of putrid matter, obtained at sea, and fish and the eggs of sea birds.

Arctic, Long-tailed, or Buffon's Jæger. (*Stercorarius buffoni.*)

Fig. 18.

The appearance of the plumage of this species as well as its habitat is the same as the last named.

Curlew Sandpiper. (*Tringa subarquata.*)

Fig. 19.

This Sandpiper is an European species, which is met along the Atlantic Coast of North America, as a straggler.

Surf Bird. (*Aphriza virgata.*)

Fig. 20.

A specimen of this Plover was obtained by Dr. Townsend at the mouth of the Columbia River. It inhabits the Coasts and Islands of the Pacific.

PLATE CXVII.

Western Red-shouldered Buzzard. (*Buteo lineatus*, var. *elegans.*)

Fig. 1.

This bird is a Western variety of the typical species, represented on Plate LXXXI, fig. 3, page 125.

Krider's Buzzard; White-bellied Red-tail. (*Buteo borealis*, var. *krideri.*)

Fig. 2.

This variety of the Red-tailed Buzzard, represented on Plate XXX, page 37, is met on the plains of the United States from Minnesota to Texas.

Suckley's Hawk; Black Merlin. (*Falco columbarius*, var. *suckleyi.*)

Fig. 3.

Along the coast of Northern California, Oregon, and Washington Territory this variety of the well-known Pigeon Hawk, represented on Plate XXXII, figures 3 and 4, page 40, is to be met with. The habits of the birds are quite similar.

Black Peregrine Falcon; Peale's Duck Hawk. (*Falco peregrinus*, var. *pealei.*)

Fig. 4.

The coloration of the plumage of this bird is very much like that of the last. It is a variety of the typical species, represented on Plate VI, page 7, and is met on the Northwest Coast of North America, from Oregon to Sitka.

Florida Mottled Owl. (*Scops asio*, var. *floridana.*)

Fig. 5.

An extreme Southern variety of the typical species, represented on Plate LXXXI, fig. 2, page 125.

Rocky Mountain Jay. (*Perisoreus canadensis*, var. *capitalis.*)

Fig. 6.

This bird is a Rocky Mountain variety of the typical species, reresented on Plate LXVII, fig. 3, page 97.

Brown Jay. (*Psilorhinus morio.*)

Fig. 7.

Lieutenant Couch obtained specimens of this species at Boquillo, San Diego, and at China, in Northeastern Mexico, when he saw them living in forests of high trees. Its habits are similar to other Jays; its notes are also harsh and loud.

White-necked Raven or Crow. (*Corvus cryptoleucus.*)

Fig. 8.

This species is an inhabitant of the Southwestern parts of North America. According to Mr. Clark, this species does not possess the cunning or wariness of its congeners. It was met with by him in the greatest abundance about watering-places, and he saw many congregated at the head of the Limpia, flying about the face of an immense rocky mountain wall. Their note he describes as coarse, and less shrill than that of the common Crow.

Audubon's Caracara; King Buzzard; Caracara Eagle. (*Polyborus tharus*, var. *auduboni.*)

Fig. 9.

Audubon met with this species in Florida, in the winter of 1831, and found it to be common. Its habitat is mostly in the extreme Southern portions of North America. Dr. Woodhouse met with it

near San Antonio, in Texas, where he saw it frequently, and always in company with the Vultures, which he says they greatly resemble in their habits.

Meadow Pipit. (*Anthus pratensis.*)

Fig. 10.

A place is given to this species among our North American birds, on the ground that a straggler from Asia was obtained at St. Michael's, Alaska. The specimen is in the Smithsonian Institute.

Nuttall's Whip-poor-will or Poor-will. (*Anthrostomus nuttali,*)

Fig. 11.

Audubon first mentioned th's species as obtained near the Rocky Mountains. Nuttall observed it amidst the granite hills of the sources of the Upper Platte River, called sea water, and from the clefts of the rocks they were uttering at intervals a low, wailing cry, in the manner of the Whip-poor-will, and sounding like the cry of the young of that species, or *pē-cū.* According to Allen: "Nuttall's Whip-poor-will was first met with on my western expedition at Topeka, Kansas, where it was by no means infrequent. We often heard it at night near the outskirts of the city, and repeatedly met with it in the day time in the darker and denser portions of the woodlands bordering on the Kaw River, reposing on the ground, like the common Whip-poor-will of the Eastern States. When flushed it passed rapidly, with a noiseless, skimming flight, through the more open parts of the undergrowth, soon realighting again on the ground. In the mountains of Colorado we again met with it at a few points in great numbers, as high even as eight thousand feet above the sea. At our camp of July 12th, on Turkey Creek, just above the cañon, scores were heard singing on the neighboring slopes throughout the beautiful moon-light night, but our pursuit of them was fruitless, as they could be seen only as they flitted from point to point when disturbed. We afterward heard them in considerable numbers at the Garden of the Gods, near Colorado City, and found them very numerous in September at the mouth of Ogden Cañon, near Ogden City, in Utah. Here, as soon as the dusk of the evening rendered it difficult to distinguish such small objects with distinctness, the whole hill sides seemed to be alive with the tantalizing abundance of these birds. Like the common Whip-poor-will of the East, they seem to sing at intervals throughout the season, and at this date (September) appeared fully as musical as during the breeding season. It lingers at its summer home till the autumn is far advanced, as we found it at Ogden as late as October 6th, quite far up the slope of the mountains, in the midst of a driving snow-storm—the first of the season—the snow having then already accumulated to the depth of several inches."

Allen's, or Green-backed California Hummingbird. (*Selasphorus alleni.*)

Fig. 12.

A new species, found by Mr. Allen in California. It arrives from Mexico about the last of February, and repairs at once to the mountains, where it feeds on the blossoms of the full-bloomed manzanita. After mating, they retire to the lower valleys. Mr. Allen found them in considerable numbers all winter in the gardens about Los Angeles.

Narrow-Fronted Woodpecker. (*Melanerpes formicivorus*, var. *angustifrons.*)

Fig. 13.

This is a variety of the typical species, represented on Plate XC, fig. 6, page 135, obtained by John Xantus at Cape St. Lucas.

Cabanis, Texas, or Green Kingfisher. (*Ceryle americana*, var. *cabanisi.*)

Fig. 14.

The Rio Grande region of Texas, and southward, is the habitat of this bird, which was first noticed by Captain McCown. It is a smaller bird than its northern relative, the Belted Kingfisher, represented on Plate XIX, fig. 2, page 20. Their habits are quite similar.

Ani, or Savannah Blackbird. (*Crotophaga ani.*)

Fig. 15.

A common species, of the West India Islands, that occasionally visits the south of Florida.

Western Horned Lark. (*Eremophila alpestris*, var. *chrysolæma.*)

Fig. 16.

This variety of the typical bird, represented on Plate LVI, fig. 4, page 82, is an inhabitant of Western North America, south into Mexico.

PLATE CXVIII.

Alaskan Gray Jay; Dusky Canada Jay. (*Perisoreus canadensis*, var. *obscurus.*)

Fig. 1.

A variety of the Canada Jay, represented on Plate LXVII, fig. 3, page 97, that is met from Alaska to California. According to Mr. Lord, it is so familiar and confiding, and so fond of being near the habitations of man, that the settlers never harm it. In the cold weather he has seen it hop by the fire, ruffle up its feathers, and warm itself, without the least fear, keeping a sharp lookout for crumbs, and looking so beseechingly with its glittering gray eyes that no one could refuse such an appeal for a stray morsel. Dr. Cooper met with this variety at the mouth of the Columbia River, in March, industriously seeking insects and seeds among the spruce trees, occasionally whistling in a loud, melodious tone, like that of the Cardinal Grosbeak. He also states that the notes of this bird differ most from the other Jays in being clear and musical, and they sometimes show a considerable variety of song Its winters are passed in British Columbia and Vancouvers Island

Paisano; Road Runner; Chaparral Cock; Ground Cuckoo; Warbird; Medicine Bird. (*Geococcyx californianus.*)

Fig. 2.

This active Cuckoo is a resident of the Pacific States, thence south into Mexico. It is considered the fleetest bird on foot connected with North American species, which accounts for the sport it gives to parties, who often pursue it on horseback and with hounds. It is most seen on the ground, at which time its movements of the tail, which is borne in an erect position, assume a variety of grotesque positions. Col. McCall, who published an interesting account of this species, in 1847, states that the resistability of the outer toe favors its use for climbing or perching, as well as for movements on the ground. He also states that when suddenly alarmed in open ground, it rises with a light, quick motion, and flies some hundreds of yards continuously with an ease that attests its ability to maintain even a longer flight. Dr. Cooper mentions its note as similar to the cooing noise of a dove. Its food consists of insects. The nest is built on a bough, or in a

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hollow tree, of mesquite twigs, and it lays from two to four pure white eggs.

Texas Prairie Hen. (*Cupidonia cupido*, var. *pallidicincta.*)

Fig. 3.

A late Texas variety of the typical bird, an account of which is found on Plate LV, fig. 1, page 81.

Massena Partridge. (*Cyrtonyx massena.*)

Fig. 4.

For a long time this beautiful bird was only known as a resident of Mexico. Late observations found it a resident of some of the Pacific States. Col. McCall, in his interesting account of this bird, says:

"The species was not seen before crossing the San Pedro, but it was not long before it made its appearance in the waste and rocky regions into which we then entered. And from that time until we reached the Rio Pecos, a distance of one hundred and forty miles (westwardly by the route we traveled), it was frequently seen, though I should not say it was very common. This region is a desert of great length from north to south, our trail crossing it at nearly right angles. The general face of the country is level, and consists of either a crumbling argillaceous limestone, or a coarse, gray sand, producing nothing but a sparse growth of sand plants. Water is found only at long intervals, and, except at those points, there is little cover for game, and apparently less food—the principal growth being *cacti*, of which the most common is *cactus arborescens;* yet here, among projecting rocks, or on the borders of dry gullies or in loose scrub, I found the Massena Partridge in all the beauty of his rich and varied plumage.

"The habits of this species are different from those of any other species of Partridge that I have met with. They were in coveys of from eight to twelve individuals, and appeared to be extremely simple and affectionate in disposition. In feeding they separated but little, keeping up a social "*cluck*" all the time. They were so gentle as to evince little or no alarm on the appearance of man, scarcely moving out of his way as he passed, and only running off or flying a few yards, when perhaps half their number were laid low by a shot. This inclined me to think that they might with little difficulty be domesticated, although I found them here in a barren, boundless waste, and nowhere near the habitation of man. This trait of gentleness is the very opposite of those manifested by the Scaly Partridge (*Callipepla squamata*), which I always observed to be, though found perchance in grounds as little frequented as these, remarkably vigilant, shy, and difficult to approach. The call or signal note of this species is peculiar. I never saw it after crossing the Pecos."

Dr. Coues well says:

"There are two points in the history of this species to which attention may profitably be directed. One is the bird's remarkable unsophistication. Living in what we should consider lonely desolation, but which is to it a happy home, the bird has not yet learned to throw aside the gentle, confiding disposition its Maker gave. No contract with the lords of the universe, guardians of civilization and progress, jobbers in ethics and æsthetics, has yet begotten in its ingenious nature the wholesome change that the requirements of self-preservation will some day demand, and which it will instinctively adopt. Birds that live in populous districts have had a lesson to learn of bitter experience, and its fruits have been instilled through generation after generation, till a second nature replaces the first, and a shrewd distrust of the whole human race is instilled. It is a nauseous dose that these Quail, like innocent children, have to swallow; but the medicine acts vigorously and beneficially, heart-longings and soul-breathings, and the like, giving way to something more substantial and sensible. Some day a fine old Cock Massena shall say to his family, '*timeo Danaos et dona ferentes;*' the newly-born wisdom shall take well, and become gospel to succeeding generations, to outlive in the code of Quail ethics the memory of the Æneid in the mind of men."

Sitkan, or Oregon Dusky Grouse. (*Tetrao obscurus*, var. *fuliginosus.*)

Fig. 5.

A northwest coast variety of the typical species, represented on Plate CXV, fig. 3, page 175, met with from Oregon to Sitka.

Richardson's Dusky Grouse. (*Tetrao obscurus*, var. *richardsoni.*)

Fig. 6.

This is also a variety of the Dusky Grouse, represented on Plate CXV, fig. 3, page 175, which has for its habitat the Rocky Mountains of British America, south to the Yellowstone and Hellgate regions of the United States.

Sage Cock; Cock of the Plains. (*Centrocercus urophasianus.*)

Fig. 7.

The Sage Cock has for its residence a restricted part of the western section of North America, known as dry and sterile regions, where the *artemisia*, or sage-brush, abounds, and which constitutes its principal food. It is the largest of our species of Grouse, weighing about six pounds, and is also the most unpalatable for table use. The nest is constructed of dry grass and slender twigs built under the sage-bushes. Its low song consists of syllables resembling *hurr-hurr-r-r-r-hoo*, ending with a guttural noise.

Corn Crake; Land Rail. (*Crex pratensis.*)

Fig. 8.

A well known species of Europe, that occasionally visits the eastern coast of the United States from Greenland. Marshy meadows, fields of green corn, and beds of reeds and rushes are its favorite resorts, and in there its peculiar creaking note is constantly to be heard. According to Yarrell, this call may be exactly imitated by passing the edge of the thumb-nail or a piece of wood, briskly along the line of the points of the teeth of a small comb, and so similar is the sound, that the bird may be decoyed by it within a very short distance. This discordant cry is continually uttered by the male until a mate is found, and incubation is commenced, after which it is heard less frequent. The flesh of this bird is good for the table.

California King Rail. (*Rallus elegans*, var. *obsoletus.*)

Fig. 9.

This bird is a California coast variety of the King Rail, Plate LXXIX, fig. 4, page 124.

Bartramian Sandpiper, or Tattler; Upland Plover. (*Aetiturus bartramius.*)

Fig. 10.

The following extracts are taken from Dr. Coues interesting account of this species:

"Bartram's Tattler, or the 'Upland Plover,' as it is generally called by sportsmen, is a bird of wide and general dispersion in the Western Hemisphere, while its casual occurrence in Europe

is attested, and it is even stated to have been found in Australia. It inhabits at different seasons nearly all of North America, and in winter pushes its migration even to Central and South America as well as into the West Indies. But it has not, to my knowledge, been found in the United States west of the Rocky Mountains. It occurs in summer as for north as the Yukon, though thousands of the birds also breed within the limits of the United States.

"On its presence and movements in the East I have made few observations, and know nothing beyond the general items familiar to all sportsmen who, with good reason, consider the Upland Plover or Grass Plover, as a prime game bird, wild and difficult to secure; best hunted from a carraige; and capital for the table. It is said to breed from the Middle districts, as in Illinois and Pennsylvania, northward. The principal shooting is done in August and September, as the birds move southward by the end of the latter month.

"In most parts of the West, between the Mississippi and the Rocky Mountains, this Tattler, commonly known as the 'Prairie Pigeon,' is exceedingly abundant during the migrations—more so than I can suppose it to be in settled portions of the country. In Texas, I am told it occurs in flocks 'of thousands.' In Kansas, during the month of May, it migrates in great numbers, being scattered over the prairies everywhere, and it is so tame that it may be destroyed without the slightest artifice; I have seen it just escape being caught with the crack of a coach-whip. Passing northward, it enters Dakota, Iowa, and Minnesota the same month. About the middle of May it reaches the latitude of Fort Randall, with great numbers of Golden Plover and Esquimaux Curlew, flecking the prairies everywhere. Its breeding habits may be studied with perfect success in Northern Dakota, where it is the most abundant of all the waders. We can scarcely cross a piece of prairie, or travel a mile along the roads anywhere, without seeing it. Its gentle and unsuspicious ways, its slender and graceful shape, and the beauty of its markings, are all alike attractive, while the excellence of its flesh is another point not less interesting, but less favorable for the bird. Too many are destroyed at this season when they are pairing, for few can resist the tempting shots, as the birds step along the road-side or stand erect in the scanty grass, gazing at the passing vehicle with misplaced confidence. By the end of May those that are to breed further north have passed on, while the remainder have paired and are about to nest.

"As soon as they are mated the pairs keep close company, being rarely beyond each other's call, and are oftenest seen rambling together through the grass. At such times they seem very slender, as indeed they are, overtopping the scanty herbage with their long, thin necks, swaying continually in graceful motion. Their ordinary note at this, as at other seasons, is a long-drawn, soft, mellow whistle, of a peculiarly clear, resonant quality; but beside this, they have a note peculiar, I believe, to this period of their lives. This is a very loud, prolonged cry, sounding more like the whistling of the wind than a bird's voice; the wild sound, which is strangely mournful, is generally uttered when the bird, just alighted, holds its wings for a moment perpendicularly, before adjusting them over its back. It is frequently heard in the night, all through the breeding season, and is, I think, one of the most remarkable outcries I ever heard. There is yet another note that the Tattler utters, chiefly when disturbed breeding: this is a harsh scream, quickly and often repeated, much like that given by other waders under the same circumstances.

"The food of this Tattler is mainly insects, especially grasshoppers, of which they must devour enormous quantities in the aggregate. They also feed on other small animal substances, as well as upon various berries. I have found them very well conditioned even in the spring, and in the fall they grow surprisingly fat. They are a tender and well-flavored bird. Being so delicate they are easily killed, dropping to a touch of the finest shot. The nest is flimsy, merely a few straws to keep the eggs from the ground, in a slight depression."

Common Wild Goose; Canada Goose, or Brant. (*Branta canadensis.*)

Fig. 11.

White-collared Goose. (*Branta canadensis*, var. *leucopareia.*)

Fig. 12.

Hutchins' Goose. (*Branta canadensis*, var. *hutchinsii.*)

Fig. 14.

The above named Brants are distributed pretty generally over the whole of North America. The White-collared is a variety from the northwest coast. Hutchins' Goose, about the same as the typical bird; but in winter it is more abundant on the west coast.

An interesting article in reference to the typical species appeared in the *Chicago Field*, written by Col. A. G. Brackett, U. S. A., from which we take the following:

"At certain seasons of the year there are immense flocks of wild geese seen in the mountains, sailing slowly and in a dignified manner through the air, the different members of the flock flying so as to form an acute angle, with some heavy male bird acting as leader. The lines sometimes waver in the air like a huge snake crawling along, and then again are as straight as arrows. During their flight they utter their harsh clanging noise, sounding wild and dreary enough when heard in the evening or during the hours of darkness. They fly over the hills and moorlands, and alight on the lakes where they love to feed in the marshes near by. Their slate-colored bodies, black heads, and white rings round their necks, look beautifully on the waters, where they swim about with the utmost grace. They are as large as tame geese, have black legs, black webbed-feet, and thick, strong plumage. They are easily tamed, when hatched under hens from eggs that have been found near the fen lands, and readily associate with tame geese, being by far the better-behaved of the two, and not making near as much noise as their cousins who have been reared in civilized life.

"In the autumn months, when the geese are preparing to go south to their winter grounds in the marshes of Louisiana and Arkansas, or are on their way thither, the streams and lakes swarm with them. They must feed while on their journey, and for this purpose stop near sunset, and employ their time in filling their crops with insects, fish, grass seed, and grain, wherever they can be found.

"They sleep by placing their heads under their wing, floating quietly on the surface of the water during the night. If disturbed, they at once take wing, and move off to some more secure place. They are frequently shot while making these journeys, the mountaineers and hunters always being ready to add a fat wild goose to their store of provisions, after the breeding season is over in the far north.

"A number of varieties of wild geese have been mentioned by authors, but the one here described is the goose commonly found in the upland regions, where, indeed, no other is ordinarily seen. The male goose, or gander, is said to be very much attached to his mate, and always remains near her when she is sitting on her nest. The stories told of these creatures are singular enough, many of them being no doubt greatly exaggerated. By some nations geese have been considered remarkably wise birds, while others believe them to be the embodiment of stupidity. In our own land to call a person a goose is synonymous with calling him an imbecile or an idiot.

"Mr. Howell says: 'We have made havoc in the ranks of the wild geese in the vast corn fields of Illinois. We have taken a stand in the center of a large corn shock, and have seen them come in myriads from the large swamps in the vicinity—always

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making their entry at a certain point instinctively, and their exit at another, if undisturbed. Here, sportsman, is your field, if you can kill a goose! If you never did, ten to one if you draw a feather. Nothing is more deceptive than a long line of old hunkers bearing down on the hiding-place of a novice at goose hunting. The size of the bird, the clack of their goose-talk as they approach a feeding ground, the apparent proximity of the noisy fellows, as they seem to fly almost in one's face, create the impression in the mind of the uninitiated that they are only a few feet off; but when he rises and fires, to his chagrin he discovers that the flock has turned about at some eighty yards distance, without a scratch. Many a splendid shot have we lost in this way, through the nervousness of some amateur sportsman, who was sure of almost any other bird, and who could make his right and left shots very creditably, but who had never shot a goose.

"'The Canada Goose is a heavily-fledged bird, and bearing down in a direct line upon the hunter, is no easy prey, until it is passing, or has passed. It is better to wait until you can see its white tips; then a quartering shot under the wing will bring down your game. Four drachms of good powder, an ounce of No. 2 shot (which is coarse enough), and a little attention to the business, will usually settle your goose question.

"'But shooting geese on the vast wheat fields, in early spring, or late in the fall, after the winter wheat has sprouted nicely, is another thing. Here are miles of expanse like the ocean, without cover of any kind; there are the geese, numbering thousands—the knolls are black with them. Now is the time for strategy. You must select a windy day—for they can not rise down the wind—provide yourself with a team of oxen and an old sled; lie down; allow the oxen to graze gradually toward them, making a circular tour toward the last, so that it will bring you to the windward; and work toward them until you notice symptoms of alarm, shown by the double note of the gander. Now is your chance. To your feet, before they can gather! You are near enough. They must pass to the right or left, for they can not rise in any other direction. Each man select his birds, and if you do not bag two each, you should never shoot at a wild goose again, unless absolutely in self-defense.

"'Much cunning is exhibited by these birds in localities where they are frequently disturbed. We have often seen them in the great swamps of the Bureau Valley, along the Illinois, come in about dark, when it was just too late to draw a sight, noiselessly stealing along, so as to avoid the random shot of the hunter returning to camp after a long day's work. So attached are they to their old grounds, and so liable to be pursued at night by reckless adventurers, that after a few warnings they baffle the most intelligent. Should their line of entry be discovered to-night, as they come across the marsh from the south, to-morrow night, if you watch, you may hear the vibration of their wings, as they pass over the timber to the north, in their approach to the old rice pond, or open water on the big slough. Upon all occasions, and also when disturbed, they exhibit their usual propensity to indulge in gabble and goose-talk.'

"The different varieties of geese lay from six to ten eggs in nests built by them near the marshes and water-courses, where they love to dwell. These nests are lined with soft grass and feathers, and are well adapted to the purpose for which they are made. It is said that the smaller variety of wild goose builds its nest in trees, and that this is frequently the case in Dakota and Montana Territories."

Barnacle Goose. (*Branta leucopsis.*)

Fig. 13.

An abundant European species that is very rarely met with in North America. Its habits are likely similar to the last named.

Gadwall; Gray Duck. (*Chaulelasmus streperus.*)

Fig. 15.

The Gadwall is a very rare bird, but is pretty generally distributed over North America, and is usually met with accompanied by others of its relatives. It is prised by the sportsman on account of its gamy nature.

Fulvous Tree Duck. (*Dendrocygna fulva.*)

Fig. 16.

This is a rare species of Duck, inhabiting the southwestern portions of the United States and Mexico, as well as South and Central America.

Autumnal Tree Duck. (*Dendrocygna autumnalis.*)

Fig. 17.

This Duck has about the same habitation as the last.

Steller's Eider Duck. (*Somateria stellerii.*)

Fig. 18.

Steller, the voyager, discovered this species inhabiting the inaccessible rocks and precipices on the coast of Kamschatka, where it builds and breeds. It is a very beautifully colored species, rarely ever met with, either in the northwest coast of North America or in its European habitat. When seen, it is usually in large flocks; is exclusively a sea bird, seldom entering the estuaries of rivers.

PLATE CXIX.

Baird's Sandpiper. (*Tringa bairdii.*)

Fig. 1.

This Sandpiper, whose soft, piping note is similar to others of its kindred, is quite generally dispersed throughout the interior of North America, east of the Rocky Mountains. During the migrating season, it visits the Atlantic coast, passing chiefly through the interior, from the Rocky Mountains to the Pacific.

English Teal. (*Querquedula crecca.*)

Fig. 2.

An European species that is occasionally met with on the Atlantic coast. It is very similar to our common Teal, represented on Plate VI, page 8.

Mexican Cormorant. (*Graculus mexicanus.*)

Fig. 3.

Pallas' Cormorant. (*Graculus perspicillatus.*)

Fig. 4.

Red-faced Cormorant. (*Graculus bicristatus.*)

Fig. 5.

White-tufted Cormorant. (*Graculus cincinnatus.*)

Fig. 6.

Florida Cormorant. (*Graculus dilophus*, var. *floridanus.*)

Fig. 7.

Cormorants are species of birds whose habits are all very much alike. As their name indicates, their voracity is seemingly impossible to satisfy; they will eat as much and as long as they can, and immediately attack other food that may happen to come within their reach. They are represented in all parts of the world, living in the sea, where they occupy some rocky island, or in fresh water marshes, or in lakes and rivers, only casually visiting the sea-coast, and seldom the interior. Their food is principally of fish, which is obtained by diving. Their flight is much better than one would suppose from their appearance. They also walk tolerably well on level ground.

The Mexican Cormorant inhabits Mexico, Southern United States up the Mississippi Valley to Illinois.

Pallas' Cormorant is a species of the North Pacific coast.

The Red-faced Cormorant, a resident of Alaska.

The White-tufted Cormorant, same residence as last.

The Florida Cormorant is a variety of the Double-crested Cormorant, represented on Plate XIII, fig. 2, page 14. It is met in the Florida and Gulf coast.

Black Brant. (*Branta bernicla*, var. *nigricans.*)

Fig. 8.

This variety of the typical species, represented on Plate LXXXIII, fig. 1, page 127, is very abundant on the Pacific coast, and is also met, but not so numerously on the Atlantic coast; their habits are about the same.

Booby Gannet. (*Sula fiber.*)

Fig. 9.

This species is very abundant on the coasts of our South Atlantic and Gulf States. Their nest is built in low trees or bushes; their food and mode of obtaining it, as well as other habits, are similar to the common species represented on Plate LXIX, fig. 1, page 98.

Trowbridge's Scooter; Long-billed Scooter. (*Acdemia perspicilliata*, var. *trowbridgei.*)

Fig. 10.

This variety of the typical species, represented on Plate LXV, fig. 4, page 96, is a winter visitor to the coast of California.

European Widgeon. (*Mareca penelope.*)

Fig. 11.

Specimens of this European bird are frequently shot along the Atlantic coast, from Greenland to Florida and to California. There is quite a similarity in the characteristics and habits of this species and the American Widgeon or Bald-pate, represented on Plate LXII, fig. 1, page 88.

St. Domingo Duck. (*Erismatura dominica.*)

Fig. 12.

This is a South America and West India species, of which a few only have been obtained, which are supposed to be stragglers. The close, harsh plumage of this bird is readily distinguished by the peculiarity of its coloring from that of all other Ducks.

Labrador Sand-shoal, or Pied Duck. (*Camptolæmus labradorius.*)

Fig. 13.

This most rare species has for its habitat the northeastern coast of North America, occasionally it reaches the shores of New Jersey, where it is called by sportsmen the Sand-shoal Duck, from its habit of frequenting sand-bars in quest of minute shell-fish, which constitute its principal food, and which it procures by diving like other Sea Ducks.

Pacific Eider. (*Somateria V. nigra.*)

Fig. 14.

A common species of the Arctic and North Pacific coast, which is similar in all appearances, except the V-shaped black mark on the chin, to the Eider Duck, represented on Plate LXV, fig. 1, page 93.

Florida Dusky Duck. (*Anas obscurus*, var. *fulvigula.*

Fig. 15.

This is a variety of the Dusky Duck, represented on Plate LVIII, fig. 3, page 85. It is a resident of Florida.

Elegant Tern. (*Sterna galericulata.*)

Fig. 16.

This elegant species is a resident along the Pacific coast, from Peru to California. Its habits are very similar to other Terns.

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To Alphabetical Arrangement of Common and Scientific Names, including an Index to the Text, Number of Plate and Figure of Each Species Represented.

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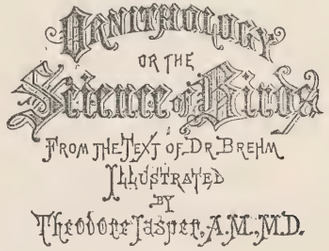

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Alphabetical Arrangement of Common Names.

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" rubra	11	9	5
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Tetrao canadensis	142	96	1
" cupido	81	55	
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" obscurus	175	115	3
" richardsoni	179	118	6
Thaumatias linnaei	156	105	5
Thallasseus regius	87	61	3
Thryothorus berlandieri	172	114	8
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" ludovicianus	78	52	8
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Totanus flavipes	11	11	1
" maculanus	84	57	4
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" semipalmatus	62	46	2
" vociferus	15	14	2
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Trachelonetta acuta	8	6	
Trichas philadelphia	51	37	4
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" arenaria	55	40	2
" bairdii	181	119	1
" bonapartii	63	46	3
" canutus	57	41	1
" crassirostris	170	112	20
" interpress	60	45	1
" macularia	84	57	4
" maritima	91	63	9
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" pusillus	146	100	1
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